FOCUSED SITE INSPECTION

TERRELL DRIVE DUMP

KYD980839849

DANVILLE, BOYLE COUNTY, KENTUCKY

DECEMBER, 1997

Prepared by Robert Pugh
Superfund Branch
Division of Waste Management
Kentucky Department for Environmental Protection

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TABLE OF CONTENTS

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DANVILLE, KENTUCKY

INTRODUCTION

The Superfund Branch of the Kentucky Division of Waste Management has conducted this Focused Site Inspection as part of the 1997-1998 Site Assessment Workplan. As directed by EPA Region IV, we investigated the impact of the site on any potential fisheries in Clark's Run, which forms the southern boundary of the site. Sediment samples were taken to score the food chain threat in the surface water pathway.

SITE DESCRIPTION

The Terrell Drive Dump Site is located on the north side of Clark's Run, in southern Danville, Boyle County, Kentucky (37° 38' 00" N latitude, 84° 45' 54" W longitude, Figure 1). It is bounded on the east by a former sewage treatment lagoon, now used as a storm water retention basin, on the north by what is now named Woods Drive and open fields, and on the west by a public park. There is a public housing complex north of the park. The city has a maintenance garage on the north side of the ten acre dump site. The surrounding area is predominantly commercial and residential. The Site is currently covered in shallow-rooted vegetation which is apparently mowed annually. There are places where debris like plastic and tile is surfacing . No leachate outbreaks could be found in August of 1997.

OPERATIONAL HISTORY

The City of Danville has owned and operated this property since the late 1960's. It was operated as an open dump, without a permit for five years ending in 1975, when the state informed Danville officials that it was an illegal dump. The city's municipal waste was disposed of during this time in addition to some drummed industrial waste. The site was not properly closed until 1986.

ENVIRONMENTAL PATHWAYS

GROUNDWATER

Danville is located in the Outer Bluegrass physiographic region of Kentucky, characterized by undulating uplands dissected by small streams and less than 1% karst topography. Clark's Run, the southern boundary of the site, flows on limestone bedrock at 890 feet above mean sea level. The original ground surface extended to about 910 feet msl at the northern boundary. The native soils underlying the dump are weathered from Ordovician age limestone, and are classified as Dunning, a silty clay loam of flat-lying flood plains. Dunning soils have low permeability and high available water capacity. The underlying Lexington Limestone is probably hydraulically connected to the alluvial aquifer in stream valleys in this area.

SURFACE WATER

The Terrell Drive Dump site is in the flood plain and surface water migrates directly to Clark's Run. This stream is too shallow to fish until it forms a cove in Herrington Lake, seven miles downstream from the site. The City of Danville supplies potable water to all residents in the target area. Their intake is in Herrington Lake, 16 miles downstream from the point of entry of contamination from Terrell Drive Dump.

SOIL

This site has been covered and vegetated, which prevents soil exposure for nearby populations. Samples taken at depth had contaminants consistent with the history of the site as a municipal landfill. Any excavation could expose workers to potential hazards. City of Danville officials are aware of the site's history so it is unlikely that this exposure will happen.

AIR

There has been no air sampling conducted and the cover should prevent migration by this pathway. The age of the landfilled material should preclude significant methane production.

PREVIOUS INVESTIGATIONS

The Kentucky Division of Waste Management inspected the dump in 1979 and in 1983 conducted a Preliminary Assessment . This was followed in 1984 by a Site Inspection (SI) by NUS Corporation. The SI included sampling of soil, sediment, surface water and groundwater. Surface water samples from Clark's Run showed Arsenic (14ug/l), Cyanide (15 ug/l) and Bis(2-ethylhexyl)phthalate (300 ug/l) downstream, none of which were

detectable upstream. The report describes an incident in 1980 during the installation of a pipeline across the site where drums were unearthed and reburied. They were said to contain material that smelled like solvent. There is evidence that local industries had permission to dispose of paint wastes at the Terrell Drive site. In 1993 Dynamac Corporation performed a Site Inspection Prioritization. The report contained a recommendation for additional sampling to determine the current impact of the site on surface water quality. These reports are included as Appendix B.

CURRENT INVESTIGATION

The scope of this investigation was limited to the surface water pathway, the recreational fishery target being the most likely to be adversely impacted by the site. Sediment samples were taken immediately downstream and at two upstream locations (Figure 2). Elevated metals were found in all three samples (Table 1). All access points to Clark's Run were inspected and no bait containers, fishing line or other evidence of recreational fishing could be found.

CONCLUSIONS / RECOMMENDATIONS

Since elevated contaminant levels were not detected downstream, an observed release could not be documented. This, coupled with the fact that a fishery does not exist in Clark's Run, leads to the conclusion that the surface water pathway will not score the site.

No further action under CERCLA is recommended.

1 MILE

7000 FEET

ILOMETER

ROAD CLASSIFICATION

Primary highway, all weather, hard surface	Light-duty road, all weather, improved surface
Secondary highway, all weather, hard surface	Unimproved road, fair or dry weather
U. S. Route	State Route

(STANFORD) 4059 II SW

KENTUCKY

QUADRANGLE LOCATION

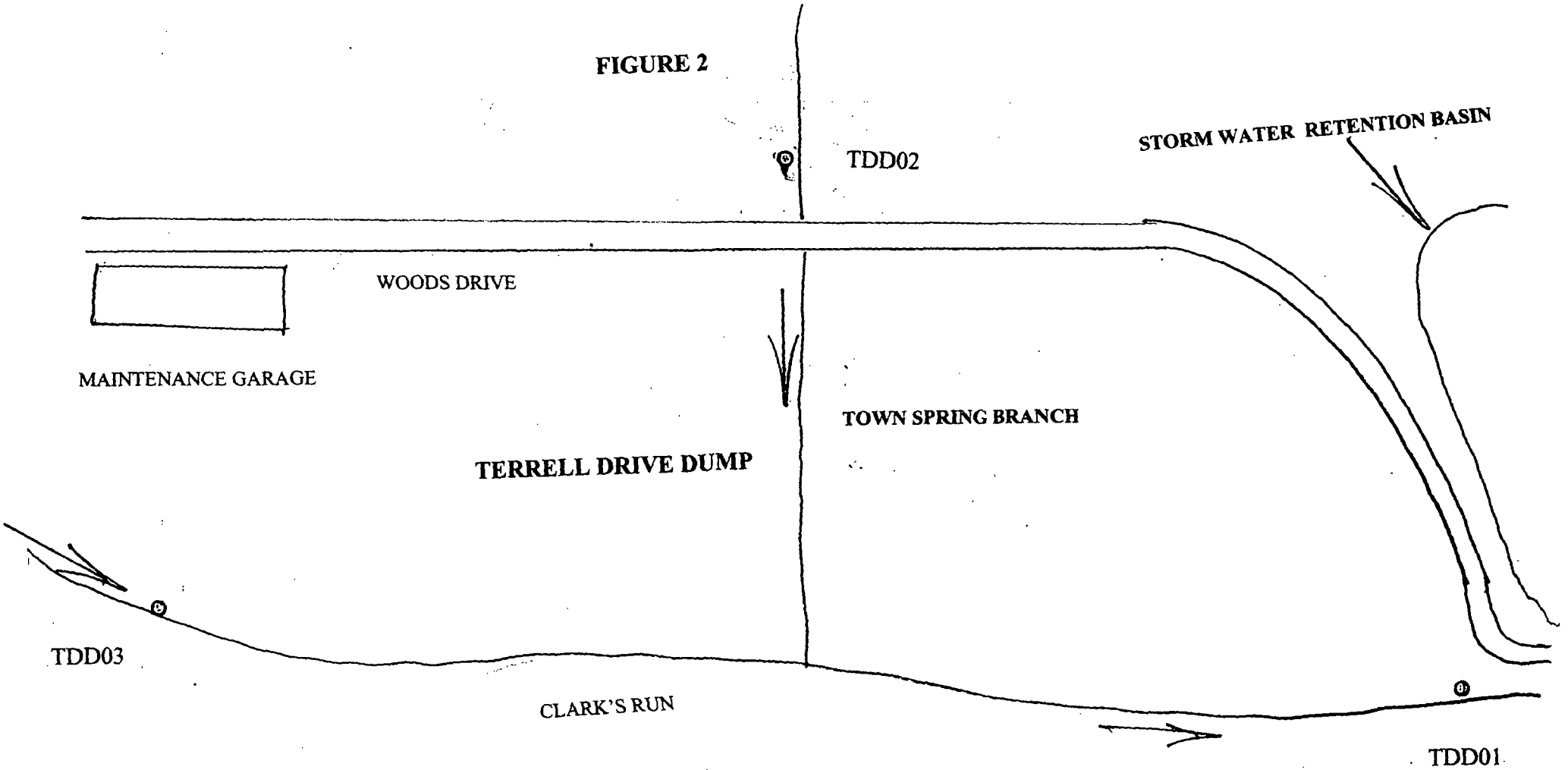
DANVILLE, KY.

N3737.5—W8445/7.5

1967
PHOTOREVISED 1979
AMS 4059 III NE—SERIES V853

FIGURE 1

FIGURE 2



N

(NOT TO SCALE)

SAMPLE LOCATION

DIRECTION OF FLOW

TABLE 1

	Sediment Samples from Clark's Run on 8/19/97				(mg/Kg)
Contaminant	Sample #	TDD01	TDD02	TDD03	
Al		4,320	10,700	11,400	
Ba		61	752	227	
Be		1.27	2.59	4.42	
CA		3,000	71,500	79,900	
Cr		22.5	33	66.6	
Co		15.8	20.9	27.3	
Cu		25.8	7.41	24.5	
Fe		57,600	77,600	136,000	
Pb		20.8	136	130	
Mg		1,600	3,220	3,840	
Mn		798	4,900	3,090	
Mo		0.593	ND	0.442	
Ni		41.3	48.7	61.7	
K		705	596	560	
Ag		ND	0.625	0.531	
Na		78.6	157	184	
Sr		9.41	153	137	
Sn		19.8	3.66	11.1	
V		24.1	48.5	88.1	
Z		86.5	120	177	
As		23.8	20	36.2	
Hg		0.0323	0.0445	0.0273	
Se		0.758	ND	ND	
Phenanthrene		0.29	ND	0.75J	
Dibutyl phthalate		1.01J	ND	1.16J	
Floranthene		0.67	ND	1.71	
Pyrene		0.5J	ND	1.27J	
Benzo(a)anthracene		ND	ND	0.51J	
Chrysene		0.27J	ND	0.65J	
Benzo(b)fluoranthene		0.34J	ND	0.9J	
Benzo(k)fluoranthene		ND	ND	0.31J	
Benzo(a)pyrene		0.26J	ND	0.66J	
Ideno(1,2,3-cd)pyrene		0.44J	ND	0.44J	
Benzo(ghi)perylene		ND	ND	0.41J	

JAMES E. BICKFORD
SECRETARY

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GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL SERVICES
CENTRALIZED LABORATORY FACILITY
100 SOWER BLVD STE 104
FRANKFORT KY 40601-8272

c Columbia F.O.
Superfund Br.

September 25, 1997

Division of Environmental Services
Report Number: B79-00001
Sample Number: 9704431

To: Division of Waste Management
Frankfort Office Park
Frankfort, Kentucky 40601

Re: Terrell Drive Dump / Danville

Attn: Linda Howard

County: Boyle

Facility: SITE #02151

Collected by: Robert Pugh & Herb Pettitjean **Date:** 08/19/97 **Time:** 1225

Delivered by: Robert Pugh **Date:** 08/20/97 **Time:** 0940

Received by: Polly Baker **Date:** 08/20/97 **Time:** 0940

Sample Matrix: Sediment **Collection Method:** Grab

Sample Identification: Downstream sediment / Clarks Run **TDD 01**

REPORT OF ANALYSIS

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
7429-90-5	Aluminum	4,320 mg/Kg
7440-36-0	Antimony	ND @ 3.13 mg/Kg
7440-39-3	Barium	61.0 mg/Kg
7440-41-7	Beryllium	1.27 mg/Kg
7440-43-9	Cadmium	ND @ 0.210 mg/Kg
7440-70-2	Calcium	3,000 mg/Kg
7440-47-3	Chromium	22.5 mg/Kg
7440-48-4	Cobalt	15.8 mg/Kg
7440-50-8	Copper	25.8 mg/Kg
7439-89-6	Iron	57,600 mg/Kg
7439-92-1	Lead	20.8 mg/Kg
7439-95-4	Magnesium	1,600 mg/Kg
7439-96-5	Manganese	798 mg/Kg
7439-98-7	Molybdenum	0.593 mg/Kg
7440-02-0	Nickel	41.3 mg/Kg
7440-09-7	Potassium	705 mg/Kg
7440-22-4	Silver	ND @ 0.296 mg/Kg
7440-23-5	Sodium	78.6 mg/Kg
7440-24-6	Strontium	9.41 mg/Kg
7440-28-0	Thallium	ND @ 5.12 mg/Kg
7440-31-5	Tin	19.8 mg/Kg

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
7440-62-2	Vanadium	24.1 mg/Kg
7440-66-6	Zinc	86.5 mg/Kg
7440-38-2	Arsenic	23.8 mg/Kg
7439-97-6	Mercury	0.0323 mg/Kg
7782-49-2	Selenium	0.758 mg/Kg
77-47-4	1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene	ND @ 0.012 mg/Kg
118-74-1	Hexachlorobenzene	ND @ 0.003 mg/Kg
319-84-6	Hexachlorocyclohexane,alpha isomer	ND @ 0.003 mg/Kg
319-85-7	Hexachlorocyclohexane,beta isomer	ND @ 0.003 mg/Kg
58-89-9	Hexachlorocyclohexane,gamma isomer	ND @ 0.003 mg/Kg
319-86-8	Hexachlorocyclohexane,delta isomer	ND @ 0.003 mg/Kg
76-44-8	Heptachlor	ND @ 0.003 mg/Kg
309-00-2	Aldrin	ND @ 0.003 mg/Kg
2921-88-2	Chlorpyrifos	ND @ 0.003 mg/Kg
1024-57-3	Heptachlor epoxide	ND @ 0.003 mg/Kg
27304-13-8	Oxychlordane	ND @ 0.003 mg/Kg
5103-74-2	trans-Chlordane	ND @ 0.003 mg/Kg
5103-71-9	cis-Chlordane	ND @ 0.003 mg/Kg
39765-80-5	trans-Nonachlor	ND @ 0.003 mg/Kg
5103-71-9	alpha-Chlordene	ND @ 0.003 mg/Kg
3734-48-3	Chlordene	ND @ 0.003 mg/Kg
	gamma-Chlordene	ND @ 0.003 mg/Kg
5103-73-1	cis-Nonachlor	ND @ 0.003 mg/Kg
12789-03-6	Technical Chlordane	ND @ 0.003 mg/Kg
3424-82-6	o,p'-DDE	ND @ 0.003 mg/Kg
72-55-9	p,p'-DDE	ND @ 0.003 mg/Kg
60-57-1	Dieldrin	ND @ 0.003 mg/Kg
72-20-8	Endrin	ND @ 0.003 mg/Kg
53-19-0	o,p'-DDD	ND @ 0.003 mg/Kg
72-54-8	p,p'-DDD	ND @ 0.003 mg/Kg
789-02-6	o,p'-DDT	ND @ 0.003 mg/Kg
50-29-3	p,p'-DDT	ND @ 0.003 mg/Kg
8017-34-3	Total DDT	ND @ 0.003 mg/Kg
72-43-5	Methoxychlor	ND @ 0.003 mg/Kg
2385-85-5	Mirex	ND @ 0.003 mg/Kg
959-98-8	Endosulfan I	ND @ 0.003 mg/Kg
33213-65-9	Endosulfan II	ND @ 0.003 mg/Kg
1031-07-8	Endosulfan sulfate	ND @ 0.003 mg/Kg
7421-93-4	Endrin aldehyde	ND @ 0.003 mg/Kg
53494-70-5	Endrin ketone	ND @ 0.003 mg/Kg
8001-35-2	Toxaphene	ND @ 0.029 mg/Kg
12674-11-2	Aroclor 1016	ND @ 0.015 mg/Kg
11104-28-2	Aroclor 1221	ND @ 0.015 mg/Kg
11141-16-5	Aroclor 1232	ND @ 0.015 mg/Kg
53469-21-9	Aroclor 1242	ND @ 0.015 mg/Kg
12672-29-6	Aroclor 1248	ND @ 0.015 mg/Kg
11097-69-1	Aroclor 1254	ND @ 0.015 mg/Kg
11096-82-5	Aroclor 1260	ND @ 0.015 mg/Kg
1336-36-3	Aroclor 1262	ND @ 0.015 mg/Kg
11100-14-4	Aroclor 1268	ND @ 0.015 mg/Kg

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
108-95-2	Phenol	ND @ 1.15 mg/Kg
62-53-3	Aniline	ND @ 1.15 mg/Kg
111-44-4	bis(2-Chloroethyl) ether	ND @ 1.15 mg/Kg
95-57-8	2-Chlorophenol	ND @ 1.15 mg/Kg
541-73-1	1,3-Dichlorobenzene	ND @ 1.15 mg/Kg
106-46-7	1,4-Dichlorobenzene	ND @ 1.15 mg/Kg
100-51-6	Benzyl alcohol	ND @ 1.15 mg/Kg
95-50-1	1,2-Dichlorobenzene	ND @ 1.15 mg/Kg
95-48-7	2-Methylphenol	ND @ 1.15 mg/Kg
106-44-5	4-Methylphenol	ND @ 1.15 mg/Kg
108-60-1	bis(2-Chloroisopropyl)ether	ND @ 1.15 mg/Kg
621-64-7	N-Nitrosodi-n-propylamine	ND @ 1.15 mg/Kg
67-72-1	Hexachloroethane	ND @ 1.15 mg/Kg
98-95-3	Nitrobenzene	ND @ 1.15 mg/Kg
78-59-1	Isophorone	ND @ 1.15 mg/Kg
88-75-5	2-Nitrophenol	ND @ 1.15 mg/Kg
105-67-9	2,4-Dimethylphenol	ND @ 1.15 mg/Kg
111-91-1	bis(2-Chloroethoxy) methane	ND @ 1.15 mg/Kg
65-85-0	Benzoic acid	ND @ 5.58 mg/Kg
120-83-2	2,4-Dichlorophenol	ND @ 1.15 mg/Kg
120-82-1	1,2,4-Trichlorobenzene	ND @ 1.15 mg/Kg
91-20-3	Naphthalene	ND @ 1.15 mg/Kg
106-47-8	4-Chloroaniline	ND @ 1.15 mg/Kg
87-68-3	1,1,2,3,4,4-Hexachloro-1,3-butadiene	ND @ 1.15 mg/Kg
59-50-7	4-Chloro-3-methylphenol	ND @ 1.15 mg/Kg
91-57-6	2-Methylnaphthalene	ND @ 1.15 mg/Kg
77-47-4	1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene	ND @ 1.15 mg/Kg
88-06-2	2,4,6-Trichlorophenol	ND @ 1.15 mg/Kg
95-95-4	2,4,5-Trichlorophenol	ND @ 1.15 mg/Kg
91-58-7	2-Chloronaphthalene	ND @ 1.15 mg/Kg
88-74-4	2-Nitroaniline	ND @ 6.04 mg/Kg
131-11-3	Dimethyl phthalate	ND @ 1.15 mg/Kg
208-96-8	Acenaphthylene	ND @ 1.15 mg/Kg
606-20-2	2,6-Dinitrotoluene	ND @ 1.15 mg/Kg
99-09-2	3-Nitroaniline	ND @ 6.04 mg/Kg
83-32-9	Acenaphthene	ND @ 1.15 mg/Kg
51-28-5	2,4-Dinitrophenol	ND @ 6.04 mg/Kg
100-02-7	4-Nitrophenol	ND @ 6.04 mg/Kg
132-64-9	Dibenzofuran	ND @ 1.15 mg/Kg
121-14-2	2,4-Dinitrotoluene	ND @ 1.15 mg/Kg
84-66-2	Diethyl phthalate	ND @ 1.15 mg/Kg
86-73-7	Fluorene	ND @ 1.15 mg/Kg
7005-72-3	4-Chlorophenyl phenyl ether	ND @ 1.15 mg/Kg
100-01-6	4-Nitroaniline	ND @ 6.04 mg/Kg
534-52-1	2,4-Dinitro-6-methylphenol	ND @ 1.15 mg/Kg
86-30-6	N-Nitrosodiphenylamine	ND @ 1.15 mg/Kg
101-55-3	4-Bromophenyl phenyl ether	ND @ 1.15 mg/Kg
118-74-1	Hexachlorobenzene	ND @ 1.15 mg/Kg
87-86-5	Pentachlorophenol	ND @ 6.04 mg/Kg
85-01-8	Phenanthrene	0.29 mg/Kg J

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
120-12-7	Anthracene	ND @ 1.15 mg/Kg
84-74-2	Dibutyl phthalate	1.01 mg/Kg B,J
206-44-0	Fluoranthene	0.67 mg/Kg J
92-87-5	Benzidine	ND @ 6.04 mg/Kg
129-00-0	Pyrene	0.50 mg/Kg J
85-68-7	Butyl benzyl phthalate	ND @ 1.15 mg/Kg
91-94-1	3,3'-Dichlorobenzidine	ND @ 2.30 mg/Kg
56-55-3	Benzo(a)anthracene	ND @ 1.15 mg/Kg
218-01-9	Chrysene	0.27 mg/Kg J
117-81-7	bis(2-Ethylhexyl)phthalate	ND @ 1.15 mg/Kg
117-84-0	Di-n-octyl phthalate	ND @ 1.15 mg/Kg
205-99-2	Benzo(b)fluoranthene	0.34 mg/Kg J
207-08-9	Benzo(k)fluoranthene	ND @ 1.15 mg/Kg
50-32-8	Benzo(a)pyrene	0.26 mg/Kg J
193-39-5	Indeno(1,2,3-cd)pyrene	ND @ 1.15 mg/Kg
53-70-3	Dibenzo(a,h)anthracene	ND @ 1.15 mg/Kg
191-24-2	Benzo(ghi)perylene	ND @ 1.15 mg/Kg

ND = Not Detected, B = Analyte Found In Blank, J = Estimated Value

This report has been prepared and reviewed by personnel within the Division of Environmental Services. It has been approved for release.

William E. Davis

William E. Davis, Director
Division of Environmental Services

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL SERVICES
CENTRALIZED LABORATORY FACILITY
100 SOWER BLVD STE 104
FRANKFORT KY 40601-8272

September 25, 1997

Division of Environmental Services
Report Number: B79-00002
Sample Number: 9704432

To: Division of Waste Management
Frankfort Office Park
Frankfort, Kentucky 40601

Re: Terrell Drive Dump / Danville

Attn: Linda Howard

County: Boyle

Facility: SITE #02151

Collected by: Robert Pugh & Herb Pettitjean **Date:** 08/19/97 **Time:** 1239

Delivered by: Robert Pugh **Date:** 08/20/97 **Time:** 0940

Received by: Polly Baker **Date:** 08/20/97 **Time:** 0940

Sample Matrix: Sediment **Collection Method:** Grab

Sample Identification: Upstream sediment / Town Spring Branch **TDD 02**

REPORT OF ANALYSIS

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
7429-90-5	Aluminum	10,700 mg/Kg
7440-36-0	Antimony	ND @ 3.30 mg/Kg
7440-39-3	Barium	752 mg/Kg
7440-41-7	Beryllium	2.59 mg/Kg
7440-43-9	Cadmium	ND @ 0.221 mg/Kg
7440-70-2	Calcium	71,500 mg/Kg
7440-47-3	Chromium	33.0 mg/Kg
7440-48-4	Cobalt	20.9 mg/Kg
7440-50-8	Copper	7.41 mg/Kg
7439-89-6	Iron	77,600 mg/Kg
7439-92-1	Lead	136 mg/Kg
7439-95-4	Magnesium	3,220 mg/Kg
7439-96-5	Manganese	4,900 mg/Kg
7439-98-7	Molybdenum	ND @ 0.442 mg/Kg
7440-02-0	Nickel	48.7 mg/Kg
7440-09-7	Potassium	596 mg/Kg
7440-22-4	Silver	0.625 mg/Kg
7440-23-5	Sodium	157 mg/Kg
7440-24-6	Strontium	153 mg/Kg
7440-28-0	Thallium	ND @ 5.40 mg/Kg
7440-31-5	Tin	3.66 mg/Kg

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
7440-62-2	Vanadium	48.5 mg/Kg
7440-66-6	Zinc	120 mg/Kg
7440-38-2	Arsenic	20.0 mg/Kg
7439-97-6	Mercury	0.0445 mg/Kg
7782-49-2	Selenium	ND @ 0.179 mg/Kg
77-47-4	1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene	ND @ 0.012 mg/Kg
118-74-1	Hexachlorobenzene	ND @ 0.003 mg/Kg
319-84-6	Hexachlorocyclohexane,alpha isomer	ND @ 0.003 mg/Kg
319-85-7	Hexachlorocyclohexane,beta isomer	ND @ 0.003 mg/Kg
58-89-9	Hexachlorocyclohexane,gamma isomer	ND @ 0.003 mg/Kg
319-86-8	Hexachlorocyclohexane,delta isomer	ND @ 0.003 mg/Kg
76-44-8	Heptachlor	ND @ 0.003 mg/Kg
309-00-2	Aldrin	ND @ 0.003 mg/Kg
2921-88-2	Chlorpyrifos	ND @ 0.003 mg/Kg
1024-57-3	Heptachlor epoxide	ND @ 0.003 mg/Kg
27304-13-8	Oxychlordane	ND @ 0.003 mg/Kg
5103-74-2	trans-Chlordane	ND @ 0.003 mg/Kg
5103-71-9	cis-Chlordane	ND @ 0.003 mg/Kg
39765-80-5	trans-Nonachlor	ND @ 0.003 mg/Kg
5103-71-9	alpha-Chlordene	ND @ 0.003 mg/Kg
3734-48-3	Chlordene	ND @ 0.003 mg/Kg
	gamma-Chlordene	ND @ 0.003 mg/Kg
5103-73-1	cis-Nonachlor	ND @ 0.003 mg/Kg
12789-03-6	Technical Chlordane	ND @ 0.003 mg/Kg
3424-82-6	o,p'-DDE	ND @ 0.003 mg/Kg
72-55-9	p,p'-DDE	ND @ 0.003 mg/Kg
60-57-1	Dieldrin	ND @ 0.003 mg/Kg
72-20-8	Endrin	ND @ 0.003 mg/Kg
53-19-0	o,p'-DDD	ND @ 0.003 mg/Kg
72-54-8	p,p'-DDD	ND @ 0.003 mg/Kg
789-02-6	o,p'-DDT	ND @ 0.003 mg/Kg
50-29-3	p,p'-DDT	ND @ 0.003 mg/Kg
8017-34-3	Total DDT	ND @ 0.003 mg/Kg
72-43-5	Methoxychlor	ND @ 0.003 mg/Kg
2385-85-5	Mirex	ND @ 0.003 mg/Kg
959-98-8	Endosulfan I	ND @ 0.003 mg/Kg
33213-65-9	Endosulfan II	ND @ 0.003 mg/Kg
1031-07-8	Endosulfan sulfate	ND @ 0.003 mg/Kg
7421-93-4	Endrin aldehyde	ND @ 0.003 mg/Kg
53494-70-5	Endrin ketone	ND @ 0.003 mg/Kg
8001-35-2	Toxaphene	ND @ 0.031 mg/Kg
12674-11-2	Aroclor 1016	ND @ 0.016 mg/Kg
11104-28-2	Aroclor 1221	ND @ 0.016 mg/Kg
11141-16-5	Aroclor 1232	ND @ 0.016 mg/Kg
53469-21-9	Aroclor 1242	ND @ 0.016 mg/Kg
12672-29-6	Aroclor 1248	ND @ 0.016 mg/Kg
11097-69-1	Aroclor 1254	ND @ 0.016 mg/Kg
11096-82-5	Aroclor 1260	ND @ 0.016 mg/Kg
1336-36-3	Aroclor 1262	ND @ 0.016 mg/Kg
11100-14-4	Aroclor 1268	ND @ 0.016 mg/Kg

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
108-95-2	Phenol	ND @ 1.25 mg/Kg
62-53-3	Aniline	ND @ 1.25 mg/Kg
111-44-4	bis(2-Chloroethyl) ether	ND @ 1.25 mg/Kg
95-57-8	2-Chlorophenol	ND @ 1.25 mg/Kg
541-73-1	1,3-Dichlorobenzene	ND @ 1.25 mg/Kg
106-46-7	1,4-Dichlorobenzene	ND @ 1.25 mg/Kg
100-51-6	Benzyl alcohol	ND @ 1.25 mg/Kg
95-50-1	1,2-Dichlorobenzene	ND @ 1.25 mg/Kg
95-48-7	2-Methylphenol	ND @ 1.25 mg/Kg
106-44-5	4-Methylphenol	ND @ 1.25 mg/Kg
108-60-1	bis(2-Chloroisopropyl)ether	ND @ 1.25 mg/Kg
621-64-7	N-Nitrosodi-n-propylamine	ND @ 1.25 mg/Kg
67-72-1	Hexachloroethane	ND @ 1.25 mg/Kg
98-95-3	Nitrobenzene	ND @ 1.25 mg/Kg
78-59-1	Isophorone	ND @ 1.25 mg/Kg
88-75-5	2-Nitrophenol	ND @ 1.25 mg/Kg
105-67-9	2,4-Dimethylphenol	ND @ 1.25 mg/Kg
111-91-1	bis(2-Chloroethoxy) methane	ND @ 1.25 mg/Kg
65-85-0	Benzoic acid	ND @ 6.04 mg/Kg
120-83-2	2,4-Dichlorophenol	ND @ 1.25 mg/Kg
120-82-1	1,2,4-Trichlorobenzene	ND @ 1.25 mg/Kg
91-20-3	Naphthalene	ND @ 1.25 mg/Kg
106-47-8	4-Chloroaniline	ND @ 1.25 mg/Kg
87-68-3	1,1,2,3,4,4-Hexachloro-1,3-butadiene	ND @ 1.25 mg/Kg
59-50-7	4-Chloro-3-methylphenol	ND @ 1.25 mg/Kg
91-57-6	2-Methylnaphthalene	ND @ 1.25 mg/Kg
77-47-4	1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene	ND @ 1.25 mg/Kg
88-06-2	2,4,6-Trichlorophenol	ND @ 1.25 mg/Kg
95-95-4	2,4,5-Trichlorophenol	ND @ 1.25 mg/Kg
91-58-7	2-Chloronaphthalene	ND @ 1.25 mg/Kg
88-74-4	2-Nitroaniline	ND @ 6.04 mg/Kg
131-11-3	Dimethyl phthalate	ND @ 1.25 mg/Kg
208-96-8	Acenaphthylene	ND @ 1.25 mg/Kg
606-20-2	2,6-Dinitrotoluene	ND @ 1.25 mg/Kg
99-09-2	3-Nitroaniline	ND @ 6.04 mg/Kg
83-32-9	Acenaphthene	ND @ 1.25 mg/Kg
51-28-5	2,4-Dinitrophenol	ND @ 6.04 mg/Kg
100-02-7	4-Nitrophenol	ND @ 6.04 mg/Kg
132-64-9	Dibenzofuran	ND @ 1.25 mg/Kg
121-14-2	2,4-Dinitrotoluene	ND @ 1.25 mg/Kg
84-66-2	Diethyl phthalate	ND @ 1.25 mg/Kg
86-73-7	Fluorene	ND @ 1.25 mg/Kg
7005-72-3	4-Chlorophenyl phenyl ether	ND @ 1.25 mg/Kg
100-01-6	4-Nitroaniline	ND @ 6.04 mg/Kg
534-52-1	2,4-Dinitro-6-methylphenol	ND @ 1.25 mg/Kg
86-30-6	N-Nitrosodiphenylamine	ND @ 1.25 mg/Kg
101-55-3	4-Bromophenyl phenyl ether	ND @ 1.25 mg/Kg
118-74-1	Hexachlorobenzene	ND @ 1.25 mg/Kg
87-86-5	Pentachlorophenol	ND @ 6.04 mg/Kg
85-01-8	Phenanthrene	ND @ 1.25 mg/Kg

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
120-12-7	Anthracene	ND @ 1.25 mg/Kg
84-74-2	Dibutyl phthalate	ND @ 1.25 mg/Kg B
206-44-0	Fluoranthene	ND @ 1.25 mg/Kg
92-87-5	Benzidine	ND @ 6.04 mg/Kg
129-00-0	Pyrene	ND @ 1.25 mg/Kg
85-68-7	Butyl benzyl phthalate	ND @ 1.25 mg/Kg
91-94-1	3,3'-Dichlorobenzidine	ND @ 2.49 mg/Kg
56-55-3	Benzo(a)anthracene	ND @ 1.25 mg/Kg
218-01-9	Chrysene	ND @ 1.25 mg/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND @ 1.25 mg/Kg
117-84-0	Di-n-octyl phthalate	ND @ 1.25 mg/Kg
205-99-2	Benzo(b)fluoranthene	ND @ 1.25 mg/Kg
207-08-9	Benzo(k)fluoranthene	ND @ 1.25 mg/Kg
50-32-8	Benzo(a)pyrene	ND @ 1.25 mg/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND @ 1.25 mg/Kg
53-70-3	Dibenzo(a,h)anthracene	ND @ 1.25 mg/Kg
191-24-2	Benzo(ghi)perylene	ND @ 1.25 mg/Kg

ND = Not Detected, B = Analyte Found In Blank

This report has been prepared and reviewed by personnel within the Division of Environmental Services. It has been approved for release.

William E. Davis, Director
Division of Environmental Services

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL SERVICES
CENTRALIZED LABORATORY FACILITY
100 SOWER BLVD STE 104
FRANKFORT KY 40601-8272

September 26, 1997

Division of Environmental Services
Report Number: B79-00003
Sample Number: 9704433

To: Division of Waste Management
Frankfort Office Park
Frankfort, Kentucky 40601

Re: Terrell Drive Dump / Danville

Attn: Linda Howard

County: Boyle

Facility: SITE #02151

Collected by: Robert Pugh & Herb Pettitjean **Date:** 08/19/97 **Time:** 1250

Delivered by: Robert Pugh **Date:** 08/20/97 **Time:** 0940

Received by: Polly Baker **Date:** 08/20/97 **Time:** 0940

Sample Matrix: Sediment **Collection Method:** Grab

Sample Identification: Upstream sediment / Clarks Run TDD 03

REPORT OF ANALYSIS

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
7429-90-5	Aluminum	11,400 mg/Kg
7440-36-0	Antimony	ND @ 3.27 mg/Kg
7440-39-3	Barium	227 mg/Kg
7440-41-7	Beryllium	4.42 mg/Kg
7440-43-9	Cadmium	ND @ 0.219 mg/Kg
7440-70-2	Calcium	79,900 mg/Kg
7440-47-3	Chromium	66.6 mg/Kg
7440-48-4	Cobalt	27.3 mg/Kg
7440-50-8	Copper	24.5 mg/Kg
7439-89-6	Iron	136,000 mg/Kg
7439-92-1	Lead	130 mg/Kg
7439-95-4	Magnesium	3,840 mg/Kg
7439-96-5	Manganese	3,090 mg/Kg
7439-98-7	Molybdenum	0.442 mg/Kg
7440-02-0	Nickel	61.7 mg/Kg
7440-09-7	Potassium	560 mg/Kg
7440-22-4	Silver	0.531 mg/Kg
7440-23-5	Sodium	184 mg/Kg
7440-24-6	Strontium	137 mg/Kg
7440-28-0	Thallium	ND @ 5.35 mg/Kg
7440-31-5	Tin	11.1 mg/Kg

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
7440-62-2	Vanadium	88.1 mg/Kg
7440-66-6	Zinc	177 mg/Kg
7440-38-2	Arsenic	36.2 mg/Kg
7439-97-6	Mercury	0.0273 mg/Kg
7782-49-2	Selenium	ND @ 0.177 mg/Kg
77-47-4	1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene	ND @ 0.013 mg/Kg
118-74-1	Hexachlorobenzene	ND @ 0.003 mg/Kg
319-84-6	Hexachlorocyclohexane,alpha isomer	ND @ 0.003 mg/Kg
319-85-7	Hexachlorocyclohexane,beta isomer	ND @ 0.003 mg/Kg
58-89-9	Hexachlorocyclohexane,gamma isomer	ND @ 0.003 mg/Kg
319-86-8	Hexachlorocyclohexane,delta isomer	ND @ 0.003 mg/Kg
76-44-8	Heptachlor	ND @ 0.003 mg/Kg
309-00-2	Aldrin	ND @ 0.003 mg/Kg
2921-88-2	Chlorpyrifos	ND @ 0.003 mg/Kg
1024-57-3	Heptachlor epoxide	ND @ 0.003 mg/Kg
27304-13-8	Oxychlordane	ND @ 0.003 mg/Kg
5103-74-2	trans-Chlordane	ND @ 0.003 mg/Kg
5103-71-9	cis-Chlordane	ND @ 0.003 mg/Kg
39765-80-5	trans-Nonachlor	ND @ 0.003 mg/Kg
5103-71-9	alpha-Chlordene	ND @ 0.003 mg/Kg
3734-48-3	Chlordene	ND @ 0.003 mg/Kg
	gamma-Chlordene	ND @ 0.003 mg/Kg
5103-73-1	cis-Nonachlor	ND @ 0.003 mg/Kg
12789-03-6	Technical Chlordane	ND @ 0.003 mg/Kg
3424-82-6	o,p'-DDE	ND @ 0.003 mg/Kg
72-55-9	p,p'-DDE	ND @ 0.003 mg/Kg
60-57-1	Dieldrin	ND @ 0.003 mg/Kg
72-20-8	Endrin	ND @ 0.003 mg/Kg
53-19-0	o,p'-DDD	ND @ 0.003 mg/Kg
72-54-8	p,p'-DDD	ND @ 0.003 mg/Kg
789-02-6	o,p'-DDT	ND @ 0.003 mg/Kg
50-29-3	p,p'-DDT	ND @ 0.003 mg/Kg
8017-34-3	Total DDT	ND @ 0.003 mg/Kg
72-43-5	Methoxychlor	ND @ 0.003 mg/Kg
2385-85-5	Mirex	ND @ 0.003 mg/Kg
959-98-8	Endosulfan I	ND @ 0.003 mg/Kg
33213-65-9	Endosulfan II	ND @ 0.003 mg/Kg
1031-07-8	Endosulfan sulfate	ND @ 0.003 mg/Kg
7421-93-4	Endrin aldehyde	ND @ 0.003 mg/Kg
53494-70-5	Endrin ketone	ND @ 0.003 mg/Kg
8001-35-2	Toxaphene	ND @ 0.033 mg/Kg
12674-11-2	Aroclor 1016	ND @ 0.016 mg/Kg
11104-28-2	Aroclor 1221	ND @ 0.016 mg/Kg
11141-16-5	Aroclor 1232	ND @ 0.016 mg/Kg
53469-21-9	Aroclor 1242	ND @ 0.016 mg/Kg
12672-29-6	Aroclor 1248	ND @ 0.016 mg/Kg
11097-69-1	Aroclor 1254	ND @ 0.016 mg/Kg
11096-82-5	Aroclor 1260	ND @ 0.016 mg/Kg
1336-36-3	Aroclor 1262	ND @ 0.016 mg/Kg
11100-14-4	Aroclor 1268	ND @ 0.016 mg/Kg

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
108-95-2	Phenol	ND @ 1.27 mg/Kg
62-53-3	Aniline	ND @ 1.27 mg/Kg
111-44-4	bis(2-Chloroethyl) ether	ND @ 1.27 mg/Kg
95-57-8	2-Chlorophenol	ND @ 1.27 mg/Kg
541-73-1	1,3-Dichlorobenzene	ND @ 1.27 mg/Kg
106-46-7	1,4-Dichlorobenzene	ND @ 1.27 mg/Kg
100-51-6	Benzyl alcohol	ND @ 1.27 mg/Kg
95-50-1	1,2-Dichlorobenzene	ND @ 1.27 mg/Kg
95-48-7	2-Methylphenol	ND @ 1.27 mg/Kg
106-44-5	4-Methylphenol	ND @ 1.27 mg/Kg
108-60-1	bis(2-Chloroisopropyl)ether	ND @ 1.27 mg/Kg
621-64-7	N-Nitrosodi-n-propylamine	ND @ 1.27 mg/Kg
67-72-1	Hexachloroethane	ND @ 1.27 mg/Kg
98-95-3	Nitrobenzene	ND @ 1.27 mg/Kg
78-59-1	Isophorone	ND @ 1.27 mg/Kg
88-75-5	2-Nitrophenol	ND @ 1.27 mg/Kg
105-67-9	2,4-Dimethylphenol	ND @ 1.27 mg/Kg
111-91-1	bis(2-Chloroethoxy) methane	ND @ 1.27 mg/Kg
65-85-0	Benzoic acid	ND @ 6.16 mg/Kg
120-83-2	2,4-Dichlorophenol	ND @ 1.27 mg/Kg
120-82-1	1,2,4-Trichlorobenzene	ND @ 1.27 mg/Kg
91-20-3	Naphthalene	ND @ 1.27 mg/Kg
106-47-8	4-Chloroaniline	ND @ 1.27 mg/Kg
87-68-3	1,1,2,3,4,4-Hexachloro-1,3-butadiene	ND @ 1.27 mg/Kg
59-50-7	4-Chloro-3-methylphenol	ND @ 1.27 mg/Kg
91-57-6	2-Methylnaphthalene	ND @ 1.27 mg/Kg
77-47-4	1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene	ND @ 1.27 mg/Kg
88-06-2	2,4,6-Trichlorophenol	ND @ 1.27 mg/Kg
95-95-4	2,4,5-Trichlorophenol	ND @ 1.27 mg/Kg
91-58-7	2-Chloronaphthalene	ND @ 1.27 mg/Kg
88-74-4	2-Nitroaniline	ND @ 6.16 mg/Kg
131-11-3	Dimethyl phthalate	ND @ 1.27 mg/Kg
208-96-8	Acenaphthylene	ND @ 1.27 mg/Kg
606-20-2	2,6-Dinitrotoluene	ND @ 1.27 mg/Kg
99-09-2	3-Nitroaniline	ND @ 6.16 mg/Kg
83-32-9	Acenaphthene	ND @ 1.27 mg/Kg
51-28-5	2,4-Dinitrophenol	ND @ 6.16 mg/Kg
100-02-7	4-Nitrophenol	ND @ 6.16 mg/Kg
132-64-9	Dibenzofuran	ND @ 1.27 mg/Kg
121-14-2	2,4-Dinitrotoluene	ND @ 1.27 mg/Kg
84-66-2	Diethyl phthalate	ND @ 1.27 mg/Kg
86-73-7	Fluorene	ND @ 1.27 mg/Kg
7005-72-3	4-Chlorophenyl phenyl ether	ND @ 1.27 mg/Kg
100-01-6	4-Nitroaniline	ND @ 6.16 mg/Kg
534-52-1	2,4-Dinitro-6-methylphenol	ND @ 1.27 mg/Kg
86-30-6	N-Nitrosodiphenylamine	ND @ 1.27 mg/Kg
101-55-3	4-Bromophenyl phenyl ether	ND @ 1.27 mg/Kg
118-74-1	Hexachlorobenzene	ND @ 1.27 mg/Kg
87-86-5	Pentachlorophenol	ND @ 6.16 mg/Kg
85-01-8	Phenanthrene	0.75 mg/Kg J

CAS NUMBER	TOTAL CONSTITUENTS	CONCENTRATION
120-12-7	Anthracene	ND @ 1.27 mg/Kg
84-74-2	Dibutyl phthalate	1.16 mg/Kg[B,J]
206-44-0	Fluoranthene	1.71 mg/Kg
92-87-5	Benzidine	ND @ 6.16 mg/Kg
129-00-0	Pyrene	1.27 mg/Kg[J]
85-68-7	Butyl benzyl phthalate	ND @ 1.27 mg/Kg
91-94-1	3,3'-Dichlorobenzidine	ND @ 2.54 mg/Kg
56-55-3	Benzo(a)anthracene	0.51 mg/Kg[J]
218-01-9	Chrysene	0.65 mg/Kg[J]
117-81-7	bis(2-Ethylhexyl)phthalate	ND @ 1.27 mg/Kg
117-84-0	Di-n-octyl phthalate	ND @ 1.27 mg/Kg
205-99-2	Benzo(b)fluoranthene	0.90 mg/Kg[J]
207-08-9	Benzo(k)fluoranthene	0.31 mg/Kg[J]
50-32-8	Benzo(a)pyrene	0.66 mg/Kg[J]
193-39-5	Indeno(1,2,3-cd)pyrene	0.44 mg/Kg[J]
53-70-3	Dibenzo(a,h)anthracene	ND @ 1.27 mg/Kg
191-24-2	Benzo(ghi)perylene	0.41 mg/Kg[J]

ND = Not Detected, B = Analyte Found In Blank, J = Estimated Value

This report has been prepared and reviewed by personnel within the Division of Environmental Services. It has been approved for release.

William E. Davis

William E. Davis, Director
Division of Environmental Services

CHAIN OF CUSTODY RECORD
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET

Program/DOW: ☐106 ☐NPS ☐SDWA ☐Stream Survey ☐Groundwater ☐Wild Rivers ☐Tox. Test ☐Ref. Reach ☐ Lakes ☐ Pretreatment ☐BMP ☐ERT

Program/DWM: ☐RCRA ☐UST ☐TSCA ☐Solid Waste ☑Fed. CERCLA ☐St. CERCLA

Program/AQ: ☐Air Toxics/Canister #_____ ☐Air Quality

Fund Source KBMA000 Site # 02151 Other Program_____

SITE LOCATION: Terrell Drive Dump-Danville FACILITY NO.: 02151 COUNTY: Boyle

FIELD ID #	DATE/ TIME	DESCRIPTION OF SITE	MATRIX	NUMBER OF CONTAINERS	PRESER-VATION	ANALYSIS REQUESTED	LAB USE ONLY
TDD01	Date: 8/19/97 Time: ☐am 12:25 ☑pm	Downstream Sediment Clarks Run AKGWA #: _____-_____	☐Liquid ☑Solid ☐Chemical ☑Grab ☐Composite ☐Other	__ Glass 1000 ml __ Plastic 1000 ml __ VOA 40 ml __ Glass 140 ml __ 280 ml ✓Other: 16oz glass	☑Ice ☐H_2SO_4 ☐NaOH ☐HNO_3 ☐HCl ☐Other	☑ABN ☐VOC ☐NH_3 ☐TO14 ☐TOC ☐TSS ☐Cl ☐HERB ☐TKN ☐BOD ☐CN ☑T. METALS ☐O&G ☐PAH ☐FP ☑PEST/PCB ☐TDS ☐ALK ☐TCLP ☐N/P-PEST ☐BTEX ☐ORTHO/P ☐OTHER:_____	Sample # 97-4431 Report # B79-0001
TDD02	Date: 8/19/97 Time: ☐am 12:39 ☑pm	Upstream sediment Town Spring Branch AKGWA #: _____-_____	☐Liquid ☑Solid ☐Chemical ☑Grab ☐Composite ☐Other	__ Glass 1000 ml __ Plastic 1000 ml __ VOA 40 ml __ Glass 140 ml __ 280 ml ✓Other: 16oz glass	☑Ice ☐H_2SO_4 ☐NaOH ☐HNO_3 ☐HCl ☐Other	☑ABN ☐VOC ☐NH_3 ☐TO14 ☐TOC ☐TSS ☐Cl ☐HERB ☐TKN ☐BOD ☐CN ☑T. METALS ☐O&G ☐PAH ☐FP ☑PEST/PCB ☐TDS ☐ALK ☐TCLP ☐N/P PEST ☐BTEX ☐ORTHO/P ☐OTHER:_____	Sample # 4432 Report # B79-0002
TDD03	Date: 8/1997 Time: ☐am 12:50 ☑pm	Upstream sediment Clarks Run AKGWA #: _____-_____	☐Liquid ☑Solid ☐Chemical ☑Grab ☐Composite ☐Other	__ Glass 1000 ml __ Plastic 1000 ml __ VOA 40 ml __ Glass 140 ml __ 280 ml ✓Other: 16oz glass	☑Ice ☐H_2SO_4 ☐NaOH ☐HNO_3 ☐HCl ☐Other	☑ABN ☐VOC ☐NH_3 ☐TO14 ☐TOC ☐TSS ☐Cl ☑HERB ☐TKN ☐BOD ☐CN ☑T. METALS ☐O&G ☐PAH ☐FP ☑PEST/PCB ☐TDS ☐ALK ☐TCLP ☐N/P PEST ☐BTEX ☐ORTHO/P ☐OTHER:_____	Sample # 4433 Report # B79-0003

Inspector(s): Robert Pugh, Herb Pettigrew

Metals: ☐As ☐Ba ☐Cd ☐Cr ☑Pb ☐Hg ☐Se ☐Ag ☐Cu ☐Fe ☐Mn ☐Zn ☑Other Ba, Co, V

Relinquished by: Robert Pugh	Date 8-20-97	Received by: Polly Baker	
Representing: Superfund	Time 9:40	Representing: DES	
Relinquished by:	Date	Received by:	
Representing:	Time	Representing:	

REFERENCE NO. 2

JACKIE SWIGART
SECRETARY

JOHN Y. BROWN, J
Governor

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FORT BOONE PLAZA
18 REILLY ROAD
FRANKFORT, KENTUCKY 40601

Division of Waste Management

MEMORANDUM

TO: Barry Burrus, Chief
Uncontrolled Site Section

THROUGH: Carl Schroeder, Manager
Field Operations Branch

FROM: Hannah Leonard, Supervisor
Frankfort Field Office

DATE: July 22, 1983

SUBJECT: Terrell Drive Dump in Danville (Boyle County)

On July 20, 1983 a meeting was held at City Hall in Danville to discuss drums containing potentially hazardous waste discovered at the old city dump. Those in attendance were:

Luthur Galloway	Danville City Engineer
Ed Music	Danville City Manager
John Czarnieck	Supervisor Engineering Services Whirlpool Corp.
Gordon Blackman	Facility Engineer, Whirlpool
T.H. Goodgame	Director, Corporate Environmental Control, Whirlpool

In August, 1980 during the installation of new sewer lines, across the dump, Luthur said some buried drums were discovered. A drum ruptured during the construction contained a material described as a cloudy liquid with an odor similar to paint thinner. According to Luthur, they were not able to have a sample analysed because it contained other wastes and debris. They did not feel it was safe to excavate another drum for sampling.

I asked Luthur why the presence of the drums was not reported three years ago when they were discovered. He indicated he was not able to say anything because of political pressure by the mayor and city manager, Sam Garnett.

An October 1971 letter in the city's files show Whirlpool was given approval by Sam Garnett, the city manager in 1971, to dispose of solid paint waste at the site. Becuase of this letter, characteristics of the waste discovered, and the fact that Whirlpool generates a xylene waste, the city manager felt the drums may contain xylene generated by Whirlpool. The Whirlpool representatives stated they no longer have records that would indicate the type or amount of wastes disposed of by Whirlpool.

Although there is no proof that the drums found at the dump site were generated by Whirlpool, we did discuss the wastes generated at the Danville facility, basically the paint waste and xylene. Whirlpool told us they had contacted their paint supplier and were told the paint formulation had not changed appreciably since 1971. According to the Whirlpool representatives present at the meeting, indicator parameters for Whirlpool wastes include lead, chromium, strontium, zinc and xylene.

We also discussed the fact that the dump was probably used by other industries in the area. I checked the industrial guide published by the Commerce Cabinet and obtained the following information:

NAME	DATE ESTABLISHED
ATR (formerly Firestone Wire and Cable)	1971
Rexnord	1973
Genesco	1946
Corning Glass Works	1952
Certified Brake (formerly Royal Ind.)	1969

The city has contacted the local chamber of commerce and the chamber will attempt to obtain information from these other industries about the disposal of their wastes during that time.

The city's primary concern is the potential contamination of their water supply by the dump. The dump is located in a floodplain adjacent to Clark's Run, a tributary which empties into Herrington Lake. This lake is the source of the city's water supply. The lake is located approximately 7 miles from the dump site.

Tom Goodgame stated the city could alleviate the potential problem by implementing the following:

1. Close the landfill properly through the application of additional cover and grading.

2. Remove the sewer lines from the dump site.

3. Sink well into the site that could be used to remove liquids out of the landfill and dispose of them through the sewer system.

Although I agreed that proper closure of the site may help prevent further leachate generation, I suggested a monitoring program was needed to evaluate the extent of the problem. I told them monitoring could include any of the following: stream and sediment sampling, leachate sampling, soil samples, air samples or even a magnatometer study which would indicate the presence of buried drums.

After our meeting at city hall, we all went out to the site. The site was never permitted and was used as a dump from 1970 to 1975 when they were told to close. A playground is located on the west end of the site across Terrell Drive from a housing project. A city maintenance barn has also been built on the site. A dump containing primarily brush was found just east of the maintenance barn. I discussed the dump with Ed and Luthur and they agreed to get it cleaned up. They also stated they would try to limit access through the east end of the site.

We drove to the east end of the site near the old sewage treatment plant where we got out and walked around. This area is covered with weeds. Although the city engineer showed us the location, there was nothing to indicate where the drums had been excavated three years ago. We also walked down Clark's Run a short distance. I observed an orange stain indicating a very small leachate outbreak at one location. I also noticed a small stream running through the landfill that should be checked for leachate outbreaks.

After we left the Terrell Drive dump site, Ed, Luthur and I went to check on the dump site used after the Terrell Drive site was closed. It, too, is adjacent to Clark's Run downstream from the Terrell Drive site. It is located off Frye Street on property owned by the Southern Railway.

We walked along the bank of Clark's Run and observed an orange stain at two locations which indicated two large leachate outbreaks. No leachate was observed flowing that day and I assume the recent dry weather may have caused them to temporarily dry up. This site should be considered when developing a monitoring plan for the Terrell Drive site and we may also want to consider including this site in a monitoring program.

During this initial investigation I did not observe any obvious signs of contamination leaving the Terrell Drive site. However, due to a press release made by the city, the media, both the local newspaper and a Lexington television station, have become aware of this site and done stories. Therefore, I recommend that a plan for addressing this dump be developed as soon as possible.

Please contact me when you want to set up a time to meet and discuss this problem.

HL/blp

UNCONTROLLED SITE REPORT

1. Date/Time Site First Reported July 15, 1983

2. Site Discovered/Reported By Ed Music, City Manager

   Address City Hall, Danville 40422 Phone: 236-2591

3. Type of Site:

   ____ Drum Storage

   ✓ Land Disposal (Describe Type:) Old city dump (no permit)

   ____ Other (Describe:) _____

4. Approximate Quantity of Actual or Potential Hazardous Substance Released Or Available for Release

   ____ Drums _____

   ____ Cubic Yards _____

   ____ Gallons _____

   ✓ Other Unknown

5. Types, Categories, and/or Compounds of Potential or Actual Hazardous Substances Present. Describe: _____

   Whirlpool wastes include painting operation - xylene, lead, chrome, strontium, zinc would be indicator parameters for their wastes

6. SITE LOCATION. Describe or Attach Map.: Site runs parallel to Terrell Dr. adjacent to Clark's Run. The old sewage treatment plant is located at one end of the site. There is a playground and city maintenance garage on top of the site at the opposite end.

7. Responsible Parties

A. Generator(s) Danville files show a letter (Oct, 1971) giving Whirlpool permission to dispose of paint wastes. Other Danville industries include ATR (Firestone Wire and Cable), 1971*; Rexnord, 1973*; Genesco, 1946*; Corning Glass Works, 1952*. *Date facility was established.

B. Transporter(s) _____

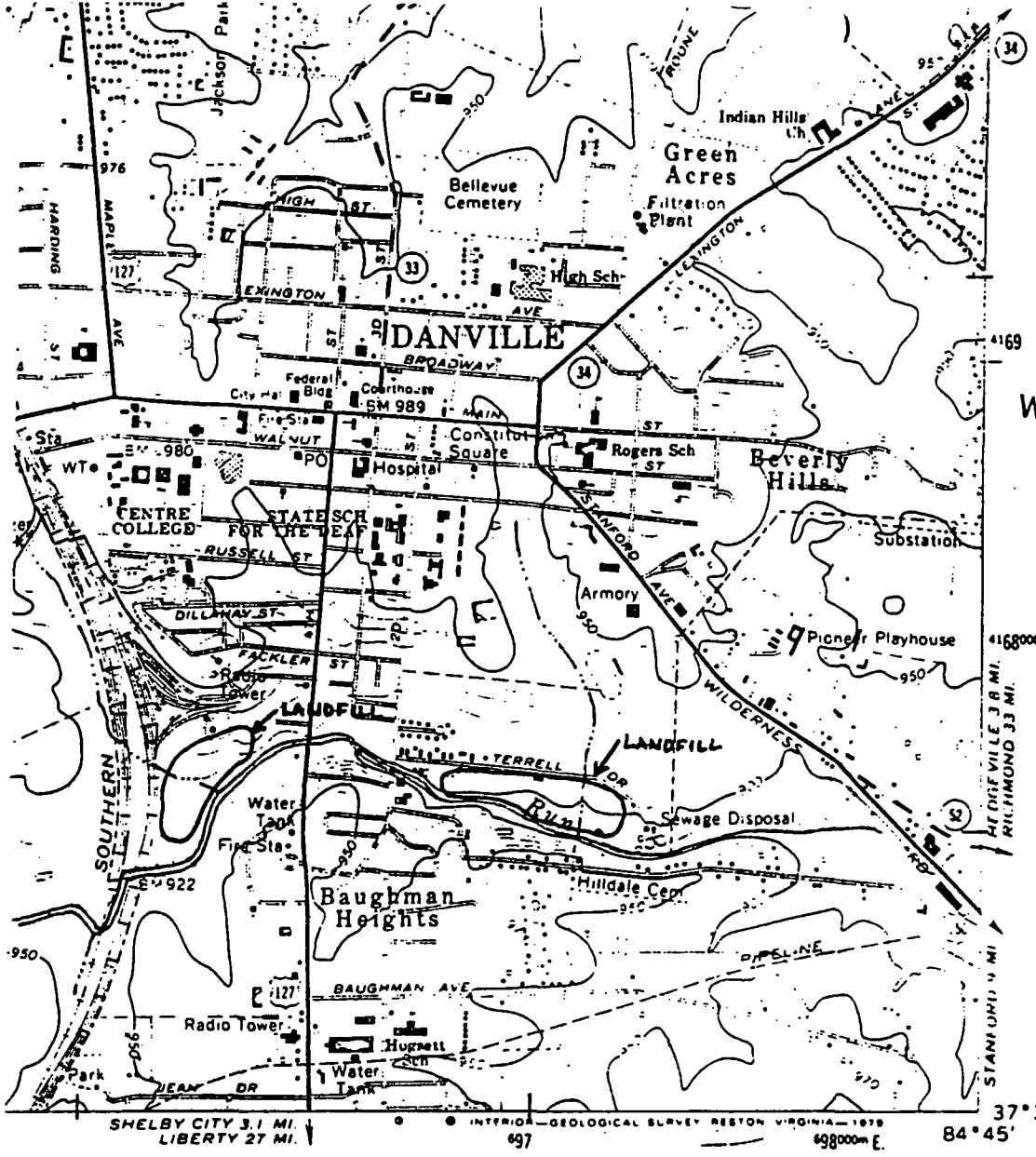
C. Site Owner(s) City of Danville

D. Site Operator(s) City of Danville

8. Approximate Date(s) of Release, Storage, and/or Disposal Operated 1971-1975

9. Additional Comments: - During the installation of sewer lines in Aug., 1980 drums of liquid were discovered at the landfill. The information was surpressed by the mayor and city manager (Sam Garnett at that time). Currently no drums can be seen.

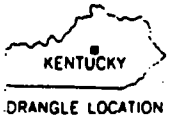
10. Field Office Contact: Hannah Leonard



ROAD CLASSIFICATION

Primary highway, all weather, hard surface	Light-duty road, all weather, improved surface
Secondary highway, all weather, hard surface	Unimproved road, fair or dry weather

U. S. Route State Route



DRANGLE LOCATION

DANVILLE, KY.

N3737.5—W8445/7.5

1967

AMS 4059 III NE—SERIES V853

1042
91B

REFERENCE NO. 3

POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

EPA

REGION: IV

SITE NUMBER (To be assigned by HQ):

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II *(Preliminary Assessment)*. File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: TERRELL DRIVE DUMP

B. STREET *(or other identifier)*: TERRELL DRIVE

C. CITY: DANVILLE

D. STATE: KY

E. ZIP CODE:

F. COUNTY NAME: BOYLE

G. OWNER/OPERATOR *(If known)*

1. NAME: CITY OF DANVILLE

2. TELEPHONE NUMBER: (606) 236-1990

H. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☑ 4. MUNICIPAL ☐ 5. PRIVATE ☐ 6. UNKNOWN

I. SITE DESCRIPTION

THIS SITE IS AN OLD CITY DUMP CONVERTED INTO A LANDFILL THAT OPERATED FOR SURE FROM 1971-1975, WITHOUT A PERMIT, EXCEPT FROM 6/9/72 - 12/9/72. IT MAY HAVE OPERATED AS EARLY AS MID-60's. NEXT TO TERRELL DR. AND CLARKS RUN CREEK

J. HOW IDENTIFIED *(i.e., citizen's complaints, OSHA citations, etc.)*

CITY ENGINEER NOTIFIED FIELD OFFICE OF POTENTIAL BURIED DRUMS DISCOVERED IN 1980 WHILE INSTALLING SEWER

K. DATE IDENTIFIED *(mo., day, & yr.)*: 7/20/83

L. PRINCIPAL STATE CONTACT

1. NAME: BARRY BURRUS

2. TELEPHONE NUMBER: (502) 564-6716

II. PRELIMINARY ASSESSMENT *(complete this section last)*

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☑ 2. MEDIUM ☐ 3. LOW ☐ 4. NONE ☐ 5. UNKNOWN

B. RECOMMENDATION

☐ 1. NO ACTION NEEDED *(no hazard)*

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☑ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR: NOTICE LETTERS SENT 8/23/83 TO RESPONSIBLE PARTIES REQUESTING INVESTIGATION
b. WILL BE PERFORMED BY:

☐ 4. SITE INSPECTION NEEDED *(low priority)*

C. PREPARER INFORMATION

1. NAME: Barry Burrus

2. TELEPHONE NUMBER: (502) 564-6716

3. DATE *(mo., day, & yr.)*: 8/23/83

III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE *(Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if intermittently.)*

☑ 2. INACTIVE *(Those sites which no longer receive wastes.)*

☐ 3. OTHER *(specify)*: *(Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)*

B. IS GENERATOR ON SITE?

☑ 1. NO ☐ 2. YES *(specify generator's four-digit SIC Code)*:

C. AREA OF SITE *(in acres)*: ~ 10 ACRES

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES

1. LATITUDE *(deg.-min.-sec.)*:

2. LONGITUDE *(deg.-min.-sec.)*:

E. ARE THERE BUILDINGS ON THE SITE?

☐ 1. NO ☑ 2. YES *(specify)*: GARAGE, PLAYGROUND

Continued From Page 2

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

ACCORDING TO H. LEONARD MEMO OF 7/22/83, DRUMS CONTAINING XYLENE GENERATED BY WHIRLPOOL CORP MAY BE BURIED AT THIS SITE. THERE IS ALSO POTENTIAL FOR ASBESTOS WASTE FROM ROYAL INDUSTRIES, PER 6/27/79 EPA MEMO (GUNTER)

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

LEACHATE FROM THE LANDFILL IS ENTERING THE CLARK'S RUN CREEK NEXT TO THE SITE.

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
1. NO HAZARD				
2. HUMAN HEALTH	X			
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY	X			
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER	X			
8. CONTAMINATION OF SURFACE WATER		X	NOTED IN INSPECTION 8/10/83	FILE RECORDS AND PHOTOS INDICATE THIS HAS BEEN OCCURING FOR A FEW YEARS.
9. DAMAGE TO FLORA/FAUNA		X	"	"
10. FISH KILL	X			
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS	X			
13. CONTAMINATION OF SOIL	X			
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS	X			
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS	X			
19. INADEQUATE SECURITY	X			
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER (specify):				

R-586-8-4-17

SAMPLING INVESTIGATION REPORT
TERRELL DRIVE DUMP SITE
DANVILLE, KENTUCKY

Prepared Under
TDD NO. F4-8310-05
CONTRACT NO. 68-01-6699

FOR THE

AIR AND WASTE MANAGEMENT DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

AUGUST 27, 1984

NUS CORPORATION
SUPERFUND DIVISION

Submitted By	Reviewed By	Approved By
Donnie McCurry	Philip Blackwell Assistant Regional Project Manager	Anne Wallace for Murray Warner, P.E. Regional Project Manager

NOTICE

The information in this document has been funded wholly by the United States Environmental Protection Agency (EPA) under Contract Number 68-01-6699 and is considered proprietary to the EPA.

This information is not to be released to third parties without the expressed written consent of the EPA or the NUS Corporation.

SAMPLING INVESTIGATION REPORT
TERRELL DRIVE DUMP SITE
DANVILLE, KENTUCKY
WP-TDD-F4-8310-05

1.0 INTRODUCTION

A sampling investigation was conducted at the Terrell Drive Dump during November 7 through November 11, 1983. The investigation was conducted by Brad Wallace, Tom Duffey, and Ed Grunwald of NUS Corporation, Region IV Field Investigation Team (FIT) at the request of the U.S. Environmental Protection Agency, Air and Waste Management Division, under Technical Directive Document (TDD) No. F4-8310-05. The investigation was conducted under the authority of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA).

The purpose of this investigation was to identify contaminants which may be present in the landfill and to determine if migration of waste materials has contaminated surface water in the vicinity of the site which serve as the local drinking water source.

The scope of this investigation was limited to the collection of surface soil and water samples and samples from hand augered holes. This investigaiton did not include a geophysical evaluation of the site.

2.0 SITE DESCRIPTION

The Terrell Drive Dump Site is located in Danville, Kentucky adjacent to Terrell Drive (Figure 1). The site is approximately ten acres in size. The dump site is located in a floodplain adjacent to Clarks Run Creek, a tributary which empties into Herrington Lake. This lake is the major source of the city's water supply and is located approximately 7 miles from the dump site. Both the Terrell Drive Dump

and the municipal sewage treatment plant are located approximately 16 miles upstream from the drinking water supply intake.

The Terrell Drive Dump is an old city dump converted into a landfill that was operated without a permit by the City of Danville during the late sixties and early seventies. A playground is located on the west end of the site across Terrell Drive from a housing project. A city maintenance barn has also been built on site (3).

An inspection on June 21, 1979 by Marsha Denton of the Kentucky Department of Environmental Protection revealed that the dump site was not properly reclaimed, the cover was inadequate, the perimeter was exposed, and the site was leaching into Clarks Run Creek (4). The dump site reportedly contains paint and xylene waste disposed of by a local manufacturing company along with other municipal wastes (3).

In August of 1980, during the installation of new sewer lines across the dump site some buried drums were discovered by city construction workers. A drum was ruptured during the construction and contained a material described as a cloudy liquid with an odor similar to paint thinner. The drums were covered and no further action was taken. In early 1983 the new city manager was notified of the incident, he contacted the Kentucky Department of Environmental Protection in July 1983, resulting in this investigation (3).

2.1 Geohydrology

Terrell Drive Dump, Danville, Kentucky, is situated at approximately 920 feet above mean sea level in elevation, in the relatively flat-lying flood plain of Clark's Run, a tributary to Herrington Lake, the primary source of drinking water for Danville.

The area is situated in the Bluegrass physiographic regions, which are characteristically underlain by limestones of Paleozoic age. Specifically, the

Frye's Lane area is located on soils that are weathering products of limestones of Ordovician age.

The site lies in an alluvial silty clay loam referred to as the Dunning (Soil Survey of Boyle aand Mercer Counties, Kentucky, Kentucky Agricultural Experiment Station Publication). This Dunning soil is a deep (60 inches) poorly drained flat-lying soil, characteristic of flood plain deposition. Slopes range from 0-2 percent.

The soil, which is a dark grey, due to the organic material content (2-10 percent), is typically acidic, also because of the organic content. The permeability is low (0.06-2 inches/hour) and the available water capacity is high (0.14-0.23 inches/hour). A seasonal high water table is typically within six inches of the surface for long periods of time in late winter and early spring.

The limestone, which is present at depths below approximately five feet in this area, is commonly interbedded with shale. In zones where this interlayering occurs, the ground-water movement is typically along bedding planes and fractures.

3.0 SAMPLE DESCRIPTION - TABLE I

This investigation consisted of the collection of seven soil, three water and two sediment samples. Quality control samples were also collected during this investigation. One water (TD-CRU-U) and one sediment sample (TD-CR-S) were collected from Clarks Run Creek upstream of the site. The second water sample (TD-CRD-W) and second sediment sample (TD-CRD-S) were collected from Clarks Run Creek downstream of the site. The two leachate soil samples (TD-LS-01 and TD-LS-02) were collected between the dump site and Clarks Run Creek. One composite soil sample (TD-CS-01) was collected on-site between a drainage ditch and a soil excavation area. The second composite soil sample (TD-CS-02) was collected off site close to the upstream water and sediment sampling points northwest of the site. Three auger soil samples were collected on site from depths of 5 to 15 feet. Auger sample TD-AS-01 stopped at a depth of 5 feet due to 100% LEL reading on the explosion meter. The second auger sample (TD-AS-02) was a

composite sample taken from two auger holes at a depth of 10-15 feet. The third auger sample (TD-AS-03) was collected approximately 10 feet south of the sewer line from a depth of 8 to 15 feet. One groundwater sample (TD-GW-01) was collected from the auger hole where auger sample (TD-AS-03) was collected (Figure 2).

4.0 DISCUSSION OF RESULTS

4.1 Analytical Quality

4.1.1 Invalid Data

Review of quality control information indicates data for pesticides, PCB's, and other chlorinated compounds for the water samples is invalid. Resampling and analysis is required to confirm data.

Invalid data will not be used in the report.

4.1.2 Suspect Data

Data for extractable and purgeable analysis of the water samples, all organic data for the upstream sediment samples, except the miscellaneous purgeable, and the purgeable data for auger soil sample AS-03 is suspect based on QC requirements by EPA, ESD Athens. This data can, however, be used as a positive indication of the presence of the reported compounds. Concentrations should be considered estimated for both positive results and minimum detection limits.

The suspect data is contained in the tables of this report.

4.2 Off-Site Samples

1. Water Samples - Table II

A. The inorganic analysis of the water sample (TD-CRU-W) (CRU-U) collected upstream of the site detected the presence of five metals, calcium (6 ug/l), zinc (35 ug/l), aluminum (640 ug/l), manganese (520 ug/l), and iron (400 ug/l).

B. Seven inorganic elements, four being priority pollutants, arsenic (14 ug/l), cadmium (1.1 ug/l), zinc (19 ug/l), and cyanide (15 ug/l).were detected in water sample (TD-CRD-W) collected downstream of the site.

2. Sediment Soil Sample - Tables III-VI

A. Upstream, Clarks Run (TD-CRU-S): Thirteen inorganic compounds, of which seven are priority pollutants as shown in Table V were detected in the sediment sample from the upstream sampling point. 4,4-DDD(P,P'-DDD) (1.1 ug/kg), a priority pollutant, was detected in the pesticides, PCBs and other chlorinated compounds analysis.

B. Downstream, Clarks Run (TD-CRD-S): The organic analysis detected nine compounds, all concentrations are estimated, and six are priority pollutants. There was also presumptive evidence of petroleum products in the sediment sample. The inorganic analysis identified fourteen elements, of which eight are priority pollutants as shown in Table VIII. The pesticides, PCBs and other chlorinated compounds analysis detected three compounds present in the sediment sample, dieldrin (1.0 ug/kg), ",'DDD(P,P'-DDD) (8.4 ug/kg) and PCB-1260 (Aroclor 1260) (240 ug/kg) all listed as priority pollutants. Table VI.

3. Composite Soil Sample. TD-CS-02

Ten organic compounds of which four are priority pollutants were detected in the composite soil sample collected from the upstream sampling point, all

concentrations are estimated (Table III & IV). The inorganic analysis revealed the presence of fifteen elements, of which eight are priority pollutants (Table V). The pesticides, PCBs and other chlorinated compounds analysis detected 1.1 ug/kg of 4,4'-DDE(P,P'-DDE) a priority pollutant in the composite soil sample collected off-site. Table VI.

4.2 On-Site

4.2.1 Organic Analysis. Tables III-IV

1. Auguered Soil Samples TD-AS-01, TD-AS-02, TD-AS-03

The augering at sample point TD-AS-01 stopped at a depth of five feet due to 100% LEL reading on the explosion meter.

Twelve organic compounds of which eight are priority pollutants, were detected in the augered soil sample TD-AS-01. All values of these compounds are estimated. The presence of two compounds are based on presumptive evidence.

Eleven organic compounds, of which six are priority pollutants, were detected in augered soil sample (TD-AS-02) collected as a composite taken from 2 augered holes at a depth of 10-15 feet. The values for the organic compounds are estimated. The presence of two compounds are based on the presumptive evidence of the presence of the material.

Fourteen organic compounds, of which eight are priority pollutants, were detected in augered soil sample (TD-AS-03) collected south of the sewer line by approximately 10 feet. With the exception of two compounds, all others have estimated values. The presence of six compounds are based on presumptive evidence.

2. Composite Soil Samples TD-CS-01

Eighteen organic compounds of which ten are priority pollutants, were detected in the composite soil sample collected between the drainage ditch and the soil excavation area. They all have an estimated concentration.

3. Leachate soil samples TD-LS-01, TD-LS-02

Nine organic compounds of which eight are priority pollutants, all of which have an estimated concentration of 40 ug/kg, except chloroform at 20 ug/kg, were detected in the leachate soil sample (TD-LS-01).

There were 13 organic compounds detected in the leachate soil sample TD-LS-02, of which 11 are priority pollutants, all but chloroform (20 ug/kg) have an estimated concentration of 40 ug/kg. There is presumptive evidence of the presence of petroleum products.

4.2.2 Inorganic Analysis Table V

1. Augered soil sample TD-AS-01, TD-AS-02, TD-AS-03

Seventeen inorganic elements, of which 10 are priority pollutants, including 750 ug/kg of cyanide, were detected in augered soil sample (TD-AS-01). There are two elements, cadmium and tin, whose concentrations are suspect.

There were 15 inorganic elements detected in the composite augered soil sample TD-As-02, of which eight are priority pollutants including cadmium whose value is suspect.

There were 15 inorganic elements of which eight are priority pollutants found in auger soil sample TD-AS-03, collected approximately 10 feet south of the sewer line at a depth of 8-15 feet.

2. Composite Soil Sample

Seventeen inorganic elements of which ten are priority pollutants, including 500 ug/kg of cyanide, were detected in composite soil sample (TD-CS-01) collected between the drainage ditch and the soil excavation area.

3. Leachate Soil Samples TD-LS-01, TD-LS-02

Fourteen inorganic elements, of which eight are priority pollutants including cadmium whose value is suspect, were detected in leachate soil sample (TD-LS-01).

There were 15 inorganic elements detected in leachate soil sample TD-LS-02, of which eight are priority pollutants, including cadmium whose value is suspect.

4.2.3 Pesticides, PCBs and Other Chlorinated Compounds Table VI

1. Augered Soil Samples TD-AS-01, TD-AS-02, TD-AS-03

Six chlorinated compounds all of which are priority pollutants, were detected in augered soil sample TD-AS-01.

There were two compounds, dieldrin (1.3 ug/kg) and 4,4'-DDD(P,P'-DDD) (4.8 ug/kg) both priority pollutants found in the augered soil sample TD-AS-02.

No pesticides, PCBs or other chlorinated compounds were detected in the augered soil sample (TD-AS-03) collected approximately 10 feet south of the sewer line.

2. Composite Soil Sample, TD-CS-01

Two chlorinated compounds, dieldrin (45 ug/kg) and 4,4'-DDD(P,P'-DDD) 34 ug/kg, both priority pollutants, were detected in composite soil sample TD-CS-01 collected between the drainage ditch and the soil excavation area.

3. Leachate Soil Samples TD-CS-01, TD-LS-02

Two compounds, dieldrin (0.4 ug/kg) and 4,4'-DDD(P,P'-DDD) (3.2 ug/kg) both priority pollutants, were detected in leachate soil sample TD-LS-01. These same two compounds were also present in leachate soil sample TD-LS-02, dieldrin at 1.5 ug/kg and 4,4'-DDD(P,P'-DDD) at 4.7 ug/kg.

4.3 Ground Water (GW-01)

Nine inorganic elements were detected in ground water sample collected from auger hole of soil TD-AS-03. Five of these are priority pollutants, including cadmium whose value is suspect. (Table II).

5.0 METHODOLOGY

All sample collection, sample preservation and chain-of-custody procedures used during this investigation were in accordance with the standard operating procedures as specified in the Water Surveillance Branch Standard Operating Procedures and Quality Assurance Manual (Draft; United States Environmental Protection Agency, Region IV, Environmental Services Division, August 29, 1980). All laboratory analyses and quality assurance procedures used during this investigation were in accordance with standard operating procedures and protocols as specified in the Analytical Support Branch Operation and Quality Assurance Manual; United States Environmental Protection Agency, Region IV, Environmental Services Division; April, 1982 or as specified by the existing United States Environmental Protection Agency standard procedures and protocols for the contract analytical laboratory program.

REFERENCES

1. General Soil Map. Boyle County Kentucky, U.S. Department of Agriculture Soil Conservation Service, Kentucky Department of Natural Resources and Environmental Protection Casings, 1981.

2. Soil Survey of Boyle and Mercer Counties, Kentucky. Kentucky Department of Natural Resources and Environmental Protection and Kentucky Agriculture Experiment Station.

3. Burrus, Barry, EPA Site Identification - Preliminary Assessment and Attached Memorandum - July 1983.

4. Denton, Marsha, Kentucky Department of Environmental Protection. Letter to City of Danville Mayor, Roy Arnold, July 9, 1979.

5. Logsdon, Gary, United States Environmental Protection Agency. Letter to James Symons, Chief, Physical-Chemical Contaminants Removal Branch. June 5, 1979.

6. Water Surveillance Branch Standard Operating Procedures and Quality Assurance Manual (Draft); U.S. Environmental Protection Agency, Region IV, Environmental Services Division, August 29, 1980.

7. Analytical Support Branch Operations and Quality Assurance Manual; U.S. Environmental Protection Agency, Region IV, Environmental Services Division; April 1982.

DYNAMAC
CORPORATION
Environmental Services

Peachtree Center Tower
230 Peachtree Street, N.W.
Suite 500
Atlanta, GA 30303

Telephone: 404-681-0933
Fax: 404-681-0894

December 2, 1993

Mr. Narindar Kumar, Acting Chief
Site Assessment Section
U.S. EPA Region IV
345 Courtland Street, NE
Atlanta, Georgia 30365

Re: Work Assignment No. C04119 - Task 5 - Site Inspection Prioritization Report - Terrell Drive Dump, Danville, Boyle County, Kentucky
Document Control No. C04119-SIP-LC-432

Dear Narindar:

Enclosed please find the Site Inspection Prioritization Report for the Terrell Drive Dump in Danville, Boyle County, Kentucky. This report has been developed to partially fulfill the requirements for TES VIII Work Assignment No. C04119, Task 5. This submittal also includes site maps, supporting reference materials and a CERCLA Eligibility Form.

If you have any questions, please contact us at (404) 681-0933.

Sincerely,

DYNAMAC CORPORATION

Frances J. Jewell for
Russ Crittenden
Site Manager

David L. Rusher
Regional Manager

Enclosures

cc: Ken Meyer, EPA Region IV Project Officer (w/o enclosures)
Jack Silvey, Dynamac TES Program Manager (w/o references)
Deborah Vaughn-Wright, EPA Region IV Work Assignment Manager
Katharine Siders Franklin, Dynamac Work Assignment Manager (w/o references)
TES WA File

TES VIII WORK ASSIGNMENT NO. C04119
SITE INSPECTION PRIORITIZATION
TERRELL DRIVE DUMP
DANVILLE, BOYLE COUNTY, KENTUCKY
EPA ID NO. KYD980839849
WASTELAN NO. 2151

EPA REGION:	IV
CONTRACT NO.:	68-W9-0005; TES VIII
EPA WAM:	DEBORAH VAUGHN-WRIGHT
TELEPHONE NO.:	(404) 347-5065
DYNAMAC WAM:	KATHARINE SIDERS FRANKLIN
TELEPHONE NO.:	(404) 681-0933

DOCUMENT CONTROL NO. C04119-SIP-LC-432

Submitted to

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION IV

by

DYNAMAC CORPORATION

December 2, 1993

TES VIII WORK ASSIGNMENT NO. C04119
SITE INSPECTION PRIORITIZATION
TERRELL DRIVE DUMP
DANVILLE, BOYLE COUNTY, KENTUCKY
EPA ID NO. KYD980839849
WASTELAN NO. 2151

TABLE OF CONTENTS

TES VIII WORK ASSIGNMENT NO. C04119
SITE INSPECTION PRIORITIZATION
TERRELL DRIVE DUMP
DANVILLE, BOYLE COUNTY, KENTUCKY
EPA ID NO. KYD980839849
WASTELAN NO. 2151

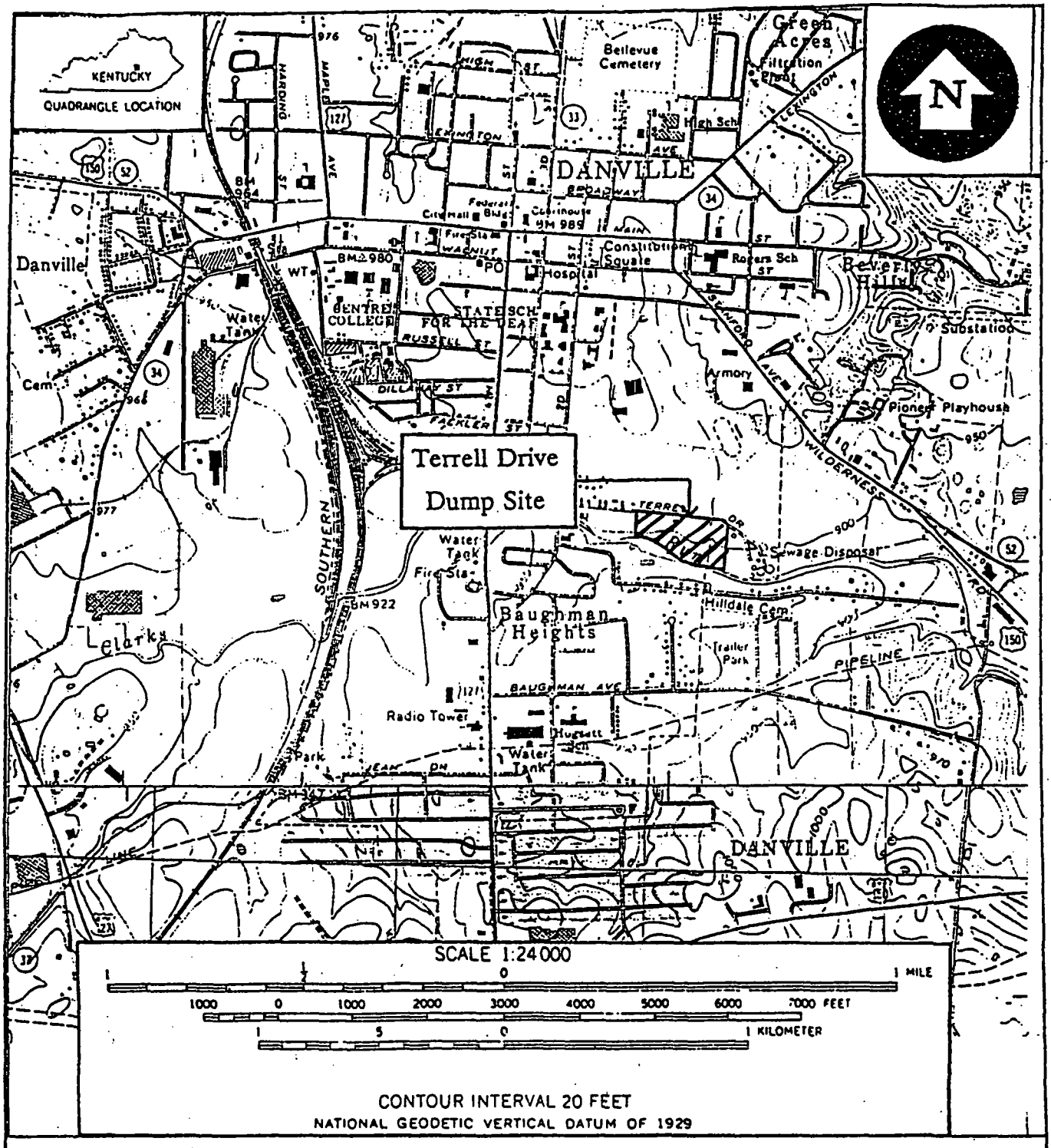
Introduction

Dynamac Corporation (Dynamac) has conducted this Site Inspection Prioritization (SIP) at the request of EPA Region IV under the Technical Enforcement Support (TES VIII) contract, Work Assignment No. C04119. The objective of this SIP has been to evaluate the characteristics of the site and surrounding areas in order to provide a recommendation concerning further activities at the site. In order to achieve this objective, Dynamac has gathered and assimilated all readily available existing information concerning the Terrell Drive Dump (the dump) and has either assembled or confirmed data concerning the population and environments in the vicinity of the dump. Pertinent elements of the data gathered and evaluated are presented in the sections that follow. Any informational gaps in the data evaluated are also identified.

Site History and Description

Terrell Drive Dump is located in Danville, Boyle County, Kentucky, adjacent to Terrell Drive at 37° 38′ 00″ latitude north and 84° 45′ 54″ longitude west (see Figure 1) (Ref. 1). The dump is inactive and occupies an estimated 10 acres of land with a playground on the west end and a maintenance building along the north central side (Refs. 1; 2, p. 3; 3, p. 1). There is no documentation indicating whether the dump is fenced. From 1970 to 1975, the city of Danville owned and operated the dump as an unpermitted landfill. Terrell Drive Landfill may have been operated as a city dump prior to 1970; however, available file material does not provide conclusive information regarding the dump prior to 1970 (Refs. 2, p. 3; 4, p. 2). The current owner of the property is not documented in available file information.

The dump is located in a residential and commercial area in Danville. The nearest residence is located approximately 150 feet northwest of the dump (Ref. 1). Terrell Drive forms the northern boundary of the Terrell Drive Dump, and Clarks Run Creek forms the southern boundary. Residences and vacant land lie along the western and eastern boundaries (see Figure 2) (Ref. 1).



Source: Base map is a portion of the USGS 7.5 Minute Series Topographic Quadrangle Maps of Danville (1967) and Junction City (1952), Kentucky.

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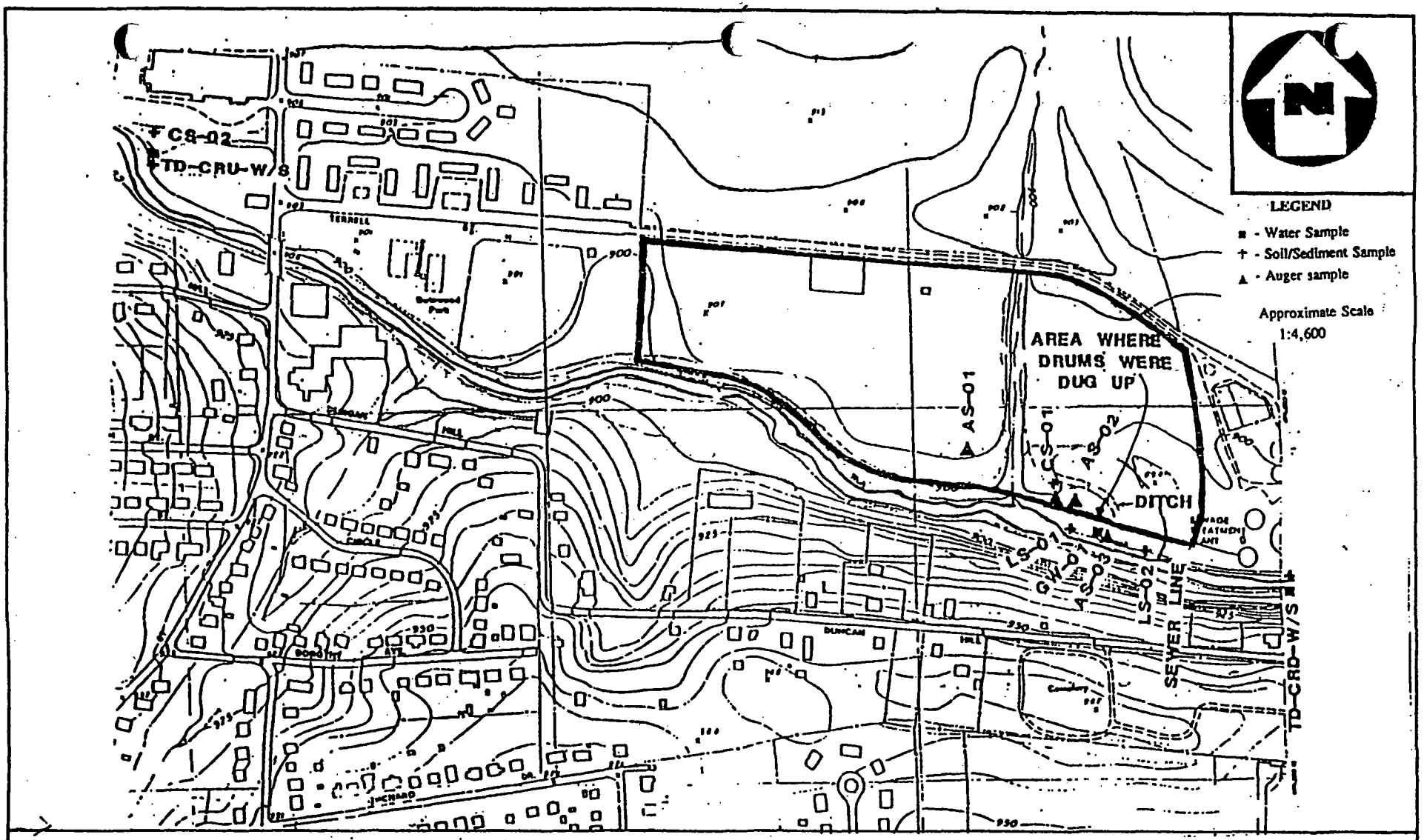
Environmental Services

FIGURE 1: SITE LOCATION MAP
TERRELL DRIVE DUMP SITE
Danville, Boyle County, Kentucky



Source: Base map is modified from the Sampling Investigation Report, NUS Corporation, 1984.

DYNAMAC CORPORATION
Environmental Services

FIGURE 2: SITE LAYOUT MAP
TERRELL DRIVE DUMP SITE
Danville, Boyle County, Kentucky

The normal annual precipitation in the area is 48 inches, and the normal annual lake evaporation is 35 inches, resulting in a net annual precipitation of 13 inches (Ref. 6, pp. 46, 63). The 2-year, 24-hour rainfall for the area is about 3.2 inches (Ref. 7, p. 2).

In August 1980, construction workers discovered buried drums in the southeast portion of the dump during installation of new sewer lines which crossed the dump. One drum was ruptured during construction activities and is reported to have contained a cloudy liquid with an odor similar to paint thinner. The drums were covered, and no further action was taken at that time. State file material indicates that the drums were not reported at the time of discovery due to local political pressure (Refs. 2, p. 1; 4, p. 2). In early 1983, the new Danville city manager notified Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC) of the existence of the buried drums (Ref. 4, p. 2). According to KNREPC, a letter in the Danville files indicated in 1971 that the Danville City Manager granted Whirlpool Corporation (Whirlpool) approval to dispose of solid paint waste containing lead, chromium, strontium, zinc and xylene at the Terrell Drive Dump. Although it is not known whether Whirlpool deposited the drums at the dump, the new Danville city manager in 1983 assumed that the drums contained xylene and were from Whirlpool. Whirlpool has generated xylene wastes and was granted approval to dispose of solid paint wastes containing xylene at the dump in 1971. According to the KNREPC, the following industries operated during the same time the city operated the dump and may have also used the dump: ATR (formerly Firestone Wire and Cable), Rexnord, Genesco, Corning Glass Works and Certified Brake (formerly Royal Industries) (Ref. 2, p. 2).

Regulatory History and Exclusions

According to the August 1984 NUS Corporation (NUS) Site Investigation (SI) Report, the Terrell Drive Dump was operated as a landfill and was never regulated or permitted under RCRA (Ref. 4, p. 2). No other permits are documented in available file information, and current site conditions are not known (Ref. 5).

Summary of Previous Investigations

In 1979, KNREPC conducted a site inspection at the dump followed by a Preliminary Assessment (PA) in 1983. In the PA, KNREPC recommended that a site inspection be conducted. No sampling was conducted during the PA; however, NUS collected groundwater, surface water, sediment, surface soil and subsurface soil samples during the SI it conducted at the dump from November 7 to November 11, 1983. According to KNREPC, no other site investigations have been conducted at the dump subsequent to 1983 (Refs. 3, pp. 1 - 2; 4; 5).

Table 1 presents elevated levels of contaminants detected in composite soil, sediment, surface water and leachate samples collected during the SI. The concentration of an analyte is considered elevated if the concentration is greater than or equal to three times the concentration in the background or control sample or greater than or equal to the Minimum Quantitation Limit (MQL) if not detected in the background/control. No analytical data indicating contaminant release to groundwater or ambient air has been documented. Additionally, no air samples have been collected.

TABLE 1

TERRELL DRIVE DUMP
DANVILLE, BOYLE COUNTY, KENTUCKY
SAMPLING INVESTIGATION
NOVEMBER 7-11, 1983

Summary of Analytical Data

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE LOCATION	ANALYTICAL RESULTS		REFERENCE(S)
CRU-W	Surface Water	Clarks Run Creek, upstream of Terrell Drive Dump.	Arsenic Cyanide Bis(2-ethylhexyl)phthalate	10 (U) ug/l 0.01 (U) ug/l 5 (U) ug/l	4, pp. 11, 13, 14, 23, 24, 32
CRD-W	Surface Water	Clarks Run Creek, downstream of Terrell Drive Dump.	Arsenic Cyanide Bis(2-ethylhexyl)phthalate	14 ug/l 15 ug/l 300 ug/l	4, pp. 11, 13, 14, 25, 26, 29
CRU-S	Sediment	Clarks Run Creek, upstream of Terrell Drive Dump.	Dieldrin DDD PCB-1260 Beryllium Cobalt Vanadium	0.2 (U) ug/kg 1.1 ug/kg 4 (U) ug/kg 250 (U) ug/kg 3,000 ug/kg 10,000 (U) ug/kg	4, pp. 11, 13, 17, 18, 47, 100
CRD-S	Sediment	Clarks Run Creek, downstream of Terrell Drive Dump.	Dieldrin DDD PCB-1260 Beryllium Cobalt Vanadium	1.0 ug/kg 8.4 ug/kg 240 ug/kg 3,000 ug/kg 21,000 ug/kg 50,000 ug/kg	4, pp. 11, 13, 17, 18, 46, 101

Note: Footnotes for Table 1 are located at the end of the table on page 7.

TABLE 1, concluded

TERRELL DRIVE DUMP
DANVILLE, BOYLE COUNTY, KENTUCKY
SAMPLING INVESTIGATION
NOVEMBER 7-11, 1983

Summary of Analytical Data

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE LOCATION	ANALYTICAL RESULTS		REFERENCE(S)
CS-02	Composite Soil (background)	Field beside bridge on Highway 127 that crosses Clarks Run Creek. Depth unknown.	Dieldrin DDD Barium Beryllium Cobalt Copper Lead Zinc Mercury Manganese Vanadium Cyanide Total xylenes Ethylbenzene PCB-1242 PCB-1248	0.2 (U) ug/kg 0.2 (U) ug/kg 74,000 ug/kg 550 ug/kg 7,500 ug/kg 9,700 ug/kg 50,000 ug/kg 44,000 ug/kg 100 (U) ug/kg 610,000 ug/kg 12,000 ug/kg 500 (U) ug/kg 20 (J) ug/kg 200 (U) ug/kg 4 (U) ug/kg 4 (U) ug/kg	4, pp. 11, 13, 17, 18, 43, 52, 96
LS-01	Leachate Soil	Southeast area of Terrell Drive Dump.	Barium Beryllium Cobalt Cyanide Manganese	260,000 ug/kg 4,000 ug/kg 28,000 ug/kg 500 ug/kg 2,200,000 ug/kg	4, pp. 11, 13, 17, 44, 53
LS-02	Leachate Soil	Southeast area of Terrell Drive Dump.	Barium Lead Vanadium	300,000 ug/kg 390,000 ug/kg 38,000 ug/kg	4, pp. 11, 13, 17, 45
CS-01	Composite Soil	Between drainage ditch and soil excavation area; depth unknown.	Dieldrin DDD Copper Lead Zinc Mercury Cyanide	45 ug/kg 34 ug/kg 220,000 ug/kg 480,000 ug/kg 380,000 ug/kg 360 ug/kg 500 ug/kg	4, pp. 11, 13, 17, 18, 42, 51, 95
AS-01	Augered Soil	East-central area of Terrell Drive Dump; depth, 5 feet.	Dieldrin DDT DDD PCB-1242 PCB-1248 Zinc	2.8 ug/kg 34 ug/kg 97 ug/kg 590 ug/kg 240 ug/kg 350,000 ug/kg	4, pp. 11, 13, 17, 18, 39, 97

Note: Footnotes for Table 1 are located at the end of the table on page 7.

TABLE 1, concluded

TERRELL DRIVE DUMP
DANVILLE, BOYLE COUNTY, KENTUCKY
SAMPLING INVESTIGATION
NOVEMBER 7-11, 1983

Summary of Analytical Data

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE LOCATION	ANALYTICAL RESULTS		REFERENCE(S)
AS-02	Augered Soil	East-central end of Terrell Drive Dump; depth, 10-15 feet.	Zinc	180,000 ug/kg	4, pp. 11, 13, 17, 40
AS-03	Augered Soil	Southeast end of Terrell Drive Dump.	Ethylbenzene Total xylenes	490 ug/kg 5,800 ug/kg	4, pp. 11, 13, 16, 61, 62

U = Analyzed for, but not detected; value shown is the minimum quantitation limit
J = Estimated value
ug/l = Micrograms per liter
ug/kg = Micrograms per kilogram
PCB = Polychlorinated biphenyls

Only one groundwater sample was collected at the dump. Arsenic, barium, chromium, and lead were detected in the groundwater sample; however, no background sample was collected so an observed release to groundwater could not be documented. Surface water sample CRD-W contained elevated levels of methyl ethyl ketone, methyl butyl ketone, carbon disulfide, chloroform and bis(2-ethylhexyl)phthalate; however, the data for surface water sample CRD-W is "suspect" based on Quality Control requirements by EPA, Environmental Services Division. Reportedly, the data can, however, be used as a positive indication of the presence of the reported compounds (Ref. 4, p. 4). The upstream and downstream sediment samples collected from Clarks Run Creek during the SI provide data that indicate the dump may be impacting water quality (Ref. 4, pp. 3, 5). The leachate sample results were compared to composite soil sample CS-02 results. The depth of composite soil sample CS-02 is not known; however it was assumed to have been collected at comparable depths to the subsurface samples collected onsite.

Sources and Waste Characteristics

The area of the site is approximately 10 acres; the actual dump size is unknown (Ref. 3, p. 1). According to a June 21, 1979, KNREPC inspection the dump had not been properly reclaimed, the perimeter was exposed and leachate was observed

entering Clarks Run Creek (Ref. 8). There is no available file information regarding the type or condition of the soil cover or whether the dump has runoff control or a liner. Soil samples collected at the dump during the SI indicate the presence of dieldrin, DDD, barium, beryllium, cobalt, lead, mercury, copper, zinc, vanadium and cyanide above background levels (Ref. 4, pp. 13, 15-18). KNREPC did not have any additional information regarding the dump subsequent to 1983 (Ref. 5).

Groundwater Migration Pathway

The dump is located in the Inner Bluegrass Region of Kentucky, a portion of the Interior Low plateaus physiographic province (Refs. 9; 10, pp. 12 - 13). The topography of the Danville area is characterized by undulating uplands dotted with sinkholes and dissected by small streams (Refs. 1; 11, p 2). The sinkholes are topographic evidence of karstic groundwater conditions. Elevations within a 4-mile radius of the dump range from approximately 750 to 1,340 feet above mean sea level (msl). The elevation of the site is approximately 900 feet above msl (Ref. 1).

The dump is located in the valley of Clarks Run and is mapped as artificial fill with adjacent areas in the valley mapped as alluvium (Ref. 12). Geologic units within a 4-mile radius of the dump include, in descending stratigraphic order: alluvium, the Grier and Curdsville Members of the Lexington Limestone and the Tyrone Limestone. A number of younger limestone units are present in upland areas in the vicinity of the dump. The silt and clay alluvium has a basal layer of gravel and ranges in thickness from 0 to 10 or more feet along small streams in the area (Ref. 13, Sheet 3). The Grier Member is a thinly bedded, light gray, medium- to coarse-grained, poorly sorted, bioclastic limestone alternating with a thinly bedded, nodular fossiliferous limestone. The Grier Member totals 85 to 95 feet thick in the Danville area. The upper part of the Curdsville Member closely resembles the Grier Member, but contains some well-sorted interbeds. The lower portions are crossbedded and contain chert nodules (Refs. 12; 13, Sheet 3). The Tyrone Limestone is very fine-grained and occurs in beds of medium thickness. This unit includes two bentonite layers underlain by thin chert beds (Refs. 12; 13, Sheet 3). The thickness of the Tyrone Limestone is approximately 90 feet in the vicinity of the dump (Ref. 13, Sheet 3). The bedrock dips to the southeast at a rate of approximately 100 feet per mile (Ref. 12). The nearest of several major and minor faults is located 0.25 mile south of the dump (Refs. 12; 13, Sheet 1).

Groundwater in the general vicinity of the dump can be obtained from the alluvium (where it occurs) and most of the limestone bedrock units. However, wells

drilled in the upland areas around the dump generally do not produce enough water for domestic supplies, and the principal aquifers in the vicinity of the dump are located in valley bottoms (Ref. 13, Sheet 2). The Lexington Limestone is a relatively productive aquifer in some stream valleys. The Tyrone Limestone produces almost no water from wells drilled through the overlying rocks because the bentonite beds act to prevent recharge (Ref. 13, Sheet 3). The presence of sinkholes and underground drainage indicates that groundwater flow in the Lexington Limestone is karstic (Ref. 13, Sheet 3). Groundwater in the unconsolidated alluvium is generally under water-table conditions, and the seasonal water table may rise to within 0 to 6 feet of the surface (Ref. 11, pp. 143 - 144). There is no evidence of a confining unit between the Lexington Limestone Members and the alluvium, and these units probably form a single hydraulically connected aquifer.

There are no known groundwater wells within 4 miles of the dump. Wells generally produce too little water for domestic use, and the groundwater is too brackish for consumption (Ref. 15). The Danville Water Department serves all of Boyle County, including rural areas in the vicinity of the dump. The Danville Water Department obtains drinking water from a surface water intake located on Herrington Lake and distributes water to the following six districts: Lake District, Hedgeville, Perryville, Parksville, Junction City and Hustonville. Dynamac has assumed that these districts provide water to homes located in Lincoln County, Kentucky (Refs. 14; 15; 16; 17).

Surface Water Migration Pathway

The soils in the vicinity of the dump that affect runoff are mapped as Elk silt loam on 2- to 6-percent slopes, Dunning silty clay loam and Nolin silt loam (Ref. 11, Map). The Elk silt loam is a deep, well-drained soil with moderate permeability formed in alluvium on stream terraces (Ref. 11, pp. 31, 75). Dunning silty clay loam is a deep, very poorly drained, slowly permeable soil formed in alluvium on floodplains (Ref. 11, pp. 28, 74). The Nolin silt loam is a deep, well-drained, moderately permeable soil formed in alluvium on floodplains (Ref. 11, pp. 46, 82). The dump is located within the 100-year floodplain of Clarks Run Creek (Ref. 18).

Surface water runoff from the dump flows south approximately 100 feet to Clarks Run Creek (Ref. 1). KNREPC observed a visible leachate breakthrough on soils at the dump and leachate entering Clarks Run Creek (Refs. 2, p. 3; 8). Clarks Run Creek flows east and north and ultimately discharges into Herrington Lake approximately 8 miles downstream of the dump (Ref. 1). The flow rate of Clarks Run Creek was not documented, but is likely to be between 10 and 100 cubic feet

per second (cfs). Herrington Lake is an impoundment of the Dix River and has a flow rate of 464 cfs (Refs. 1; 19, p. 86).

No surface water intakes are located on Clarks Run Creek or on Herrington Lake within the 15-mile surface water migration pathway. Intakes are located approximately a half mile downstream of the 15-mile surface water migration pathway (Refs. 1; 14). Both Clarks Run Creek and Herrington Lake are used for recreational fishing (Ref. 20). According to topographic maps of the area, there are no wetlands within the 15-mile surface water migration pathway (Ref. 1). No State- or federally designated threatened or endangered species have been sighted along the 15-mile surface water migration pathway (Ref. 21).

Air Migration and Soil Exposure Pathways

Selected demographic information presented below was collected to evaluate the air migration and soil exposure pathways. Possible impacts of airborne contamination were assumed using the residential population, workers, schools and sensitive environments within 4 miles of the dump. Similarly, potential effects of exposure to surficial contamination at the dump were evaluated using accessibility of the dump and human and environmental populations onsite and within a 1-mile travel distance.

According to available file material, Terrell Drive Dump has been inactive since 1975 (Refs. 2, p. 3; 5). There are no known residents onsite (Ref. 5, p. 1). A playground is located on the west end of the dump, and a housing project is located across Terrell Drive from the playground. A city maintenance garage has also been reported to be located at the dump (Ref. 2, p. 3). There are no schools within 200 feet of the dump (Ref. 1). Available file material did not indicate whether the dump is fenced.

Population distribution within 4 miles of the dump was determined by using the EPA's Graphical Exposure Modelling System (GEMS) data base (Ref. 24). The population reported by GEMS did not match the population areas shown on topographic maps and was reallocated in order to more accurately reflect the actual population distribution (Ref. 22). The estimated number of persons residing within 4 miles of the dump is distributed as follows:

Radial Distance	Population
0 - 0.25 mile	341
0.25 - 0.50 mile	1,022
0.50 - 1 mile	4,091
1 - 2 miles	8,416
2 - 3 miles	896
3 - 4 miles	3,584
Total	18,350

No endangered or threatened species have been sighted at the dump. Several federally designated threatened and endangered species have been sighted in Kentucky; however, their exact locations were not documented (Ref. 20, pp. 1 - 3). Federally endangered species include the gray bat (Myotis grisescens), the Indiana bat (Myotis sodalis), the eastern cougar (Felis concolor couguar), and the bald eagle (Haliaeetus leucocephalus). The Arctic peregrine falcon (Falco peregrinus tundrius) is a federally threatened species. There are no wetlands located within 4 miles of the dump (Ref. 1).

Conclusion/Recommendation

Elevated levels of dieldrin, DDD, beryllium, cobalt and vanadium were detected in sediment samples collected from Clarks Run Creek, which is a fishery, and in onsite soil samples. These samples were collected in 1983. Dynamac Corporation recommends that onsite samples be collected to characterize the dump and that additional sediment samples be collected from Clarks Run Creek to assess current impact on water quality. Appropriate background samples should be collected for all media.

References

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2. Hannah Leonard, Supervisor, Frankfort Field Office, interoffice memorandum with attachment to Barry Burrus, Chief, Uncontrolled Site Section, Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC), July 22, 1983. Subject: Terrell Drive Dump in Danville, Boyle County.

3. Potential Hazardous Waste Site Identification and Preliminary Assessment (EPA Form T2070-2) for Terrell Drive Dump, Danville, Kentucky, filed by Barry Burrus, KNREPC, August 23, 1983.

4. NUS Corporation, Superfund Division, Sampling Investigation Report, Terrell Drive Dump, Danville, Kentucky, prepared under TDD No. F4-8310-05 for the Air and Waste Management Division of EPA (August 27, 1984).

5. Mike Blanton, Environmental Engineer, State Superfund Section, KNREPC, telephone conversation with Russ Crittenden, Dynamac Corporation, November 4, 1993. Subject: Terrell Drive Dump.

6. U.S. Department of Commerce, Climatic Atlas of the United States, (Washington, D.C.: GPO, June 1968), reprint: 1983, National Oceanic and Atmospheric Administration, excerpt, 4 pages.

7. U.S. Department of Commerce, Rainfall Frequency Atlas of the United States, Technical Paper No. 40, (Washington, D.C.: GPO, 1961), excerpt, 3 pages.

8. Marsha Denton, Field Inspector, Non-Hazardous Waste Management Section, Kentucky Department for Natural Resources and Environmental Protection, letter to Roy Arnold, Mayor, City of Danville, July 9, 1979. Subject: Inspection of June 21, 1979 at Terrell Drive Dump.

9. U.S. Geological Survey, Geologic Map of Kentucky, Sesquicentennial Edition of the Kentucky Geological Survey (1988).

10. Charles B. Hunt, Natural Regions of the United States and Canada (San Francisco: W.H. Freeman and Co., 1974), excerpt, 2 pages.

11. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Boyle and Mercer Counties, Kentucky (April 1983), excerpt, 10 pages.

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13. W.N. Palmquist, Jr. and F.R. Hall, Availability of Ground Water in Boyle, Garrard, Lincoln, and Mercer Counties, Kentucky, Hydrologic Investigations Atlas HA-20, (Washington, D.C.: U.S. Geological Survey, 1960), excerpt, 3 plates.

14. Tom Crawford, Utility Director, Danville Water Department, telephone conversation with Russ Crittenden, Dynamac Corporation, August 26, 1993. Subject: Drinking water supply for Danville and surrounding areas.

15. Luther Galloway, City Engineer, Danville Water Department, telephone conversation with Dawn Thompson, Dynamac Corporation, September 9, 1993. Subject: Drinking water supply for Danville and surrounding areas.

16. Charlotte Boulind, Environmental Scientist, Dynamac Corporation, project note to Terrell Drive Dump file, November 28, 1993. Subject: Map of Danville Water Department service area.

17. Harold Leach, Mayor, City of Junction City, telephone conversation with Russ Crittenden, Dynamac Corporation, October 25, 1993. Subject: Drinking water supply for Lincoln County.

18. Federal Emergency Management Agency, Flood Insurance Rate Map for City of Danville, Boyle County, Kentucky, Corporate limits, Map 01, Map Index, September 27, 1985.

19. D.L. McClain, F.D. Byrd, and A.C. Brown, Water Resources Data Kentucky Water Year 1990, U.S. Geological Survey Water-Data Report KY-90-1, (Louisville, Kentucky: U.S. Geological Survey, 1991), excerpt, 7 pages.

20. Benjy Kinman, Fishery Program Coordinator, Department of Fish and Wildlife, telephone conversation with Dawn Thompson, Dynamac Corporation, September 9, 1993. Subject: Recreational and commercial fishing in Clarks Run and Herrington Lake.

21. U.S. Fish and Wildlife Service, Endangered and Threatened Species of the Southeast United States (Atlanta, Georgia, 1992), excerpt, 5 pages.

22. Charlotte M. Boulind, Environmental Scientist, Dynamac Corporation, project note to Terrell Drive Dump file, November 28, 1993. Subject: Reallocation of population derived from the Graphical Exposure Modeling System (GEMS) database printout for the area within 4 miles of Terrell Drive Dump.

23. David E. McChesney, Wildlife Biologist, Environmental Section, Kentucky Department of Fish and Wildlife Resources, letter with attachments to Dawn Thompson, Dynamac Corporation, September 9, 1993. Subject: Endangered/ threatened species information for Clark's Run, Boyle County, Kentucky.

24. U.S. Environmental Protection Agency, Graphical Exposure Modeling System (GEMS) Database, compiled from U.S. Bureau of Census data (1990).

9

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10582149 Site ID: KYD984083945

Site Name: Terrell Drive Dump

Nature of Material:

Map:	✓	Computer Disks:	
Photos:		CD-ROM:	
Blueprints:		Oversized Report:	
Slides:		Log Book:	

Other (describe): Geological Survey

Amount of material:

Please contact the appropriate Records Center to view the material.

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 1058249 Site ID: KYD980839849

Site Name: Jerrell Drive Dump

Nature of Material:

Map:		Computer Disks:	
Photos:	✓	CD-ROM:	
Blueprints:		Oversized Report:	
Slides:		Log Book:	

Other (describe): Site Photos

Amount of material:

Please contact the appropriate Records Center to view the material.